Service Manual

PIONEER
The Art of Entertainment

ORDER NO.
RRV1717

AUDIO/VIDEO STEREO RECEIVER

VSX-505RDSMkII

● **Refer to the service manual RRV1538 for VSX-505RDS/HVXK.**

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	VSX-505RDSMkII		
HVXK	○	AC230V	
HYXKEW	○	AC220–230V	
HYXKGR	○	AC220–230V	

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T-KZE FEB. 1997 Printed in Belgium

1. CONTRAST OF MISCELLANEOUS PARTS

NOTES : ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*

● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

● *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 *When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).*

560Ω → 56 x 10¹ = 561 ..... *RD1/4PU* [5][6][1] *J*

47kΩ → 47 x 10³ = 473 ..... *RD1/4PU* [4][7][3] *J*

0.5Ω → R50 ..... *RN2H* [R][5][0] *K*

1Ω → 1R0 ..... *RS1P* [1][R][0] *K*

Ex. 2 *When there are 3 effective digits (such as in high precision metal film resistors).*

5.62kΩ → 562 x 10¹ = 5621 ..... *RN1/4PC* [5][6][2][1] *F*

■ CONTRAST OF VSX-505RDSMkII/HVXK, HYXKEW, HYXKGR AND VSX-505RDS/HVXK

VSX-505RDSMkII/HVXK, HYXKEW, HYXKGR and VSX-505RDS/HVXK have the same construction except for the following:

Mark	Symbol & Description	Part No.				Remarks
		VSX-505RDS/ HVXK	VSX-505RDSMkII/ HVXK	VSX-505RDSMkII/ HYXKEW	VSX-505RDSMkII/ HYXKGR	
	MAIN ASSY	AWK7235	Not used	Not used	Not used	
NSP	MAIN ASSY	Not used	AWK7394	AWK7394	AWK7394	
	├ MOTHER ASSY	AWZ8057	AWZ8831	AWZ8831	AWZ8831	
	│ └ 4 CHAIN F.E MODULE	AXQ1004	AXQ1004	AXQ1004	AXQ1004	
	├ FL AND UCOM ASSY	AWZ8062	AWZ8833	AWZ8833	AWZ8833	
NSP	├ ST. IND. ASSY	AWZ8065	AWZ8065	AWZ8065	AWZ8065	
NSP	├ VIDEO ASSY	AWZ8066	Not used	Not used	Not used	
	├ VIDEO ASSY	Not used	AWZ8832	AWZ8832	AWZ8832	
NSP	├ REG ASSY	AWZ8067	AWZ8067	AWZ8067	AWZ8067	
NSP	├ SP. SW AND H.P ASSY	AWZ8070	AWZ8070	AWZ8070	AWZ8070	
NSP	└ TRANS ASSY	AWZ8073	AWZ8073	AWZ8073	AWZ8073	
⚠	AC Power Cord	ADG7007	ADG7007	ADG7008	ADG7008	
	Front Panel	AMB7337	AMB7429	AMB7429	AMB7429	
	Rear Panel	ANC7348	ANC7566	ANC7565	ANC7565	
	Bonnet Case	ANE7103	ANE7103	ANE7102	ANE7102	
	Top Cover	AME1086	AME1086	Not used	Not used	
	Bonnet Holder	ANG7105	ANG7105	Not used	Not used	
	Packing Case	AHD7273	AHD7426	AHD7426	AHD7426	
	Operating Instructions (English)	ARB7069	ARB7107	Not used	Not used	
	Operating Instructions (Dutch/Swedish/Spanish/Portuguese)	Not used	Not used	ARC7152	Not used	
	Operating Instructions (English/French/German/Italian)	Not used	Not used	ARE7109	Not used	
	Operating Instructions (German)	Not used	Not used	Not used	ARC7151	

■ CONTRAST OF PCB ASSEMBLIES

MOTHER Assy

AWZ8831 and AWZ8057 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ8057	AWZ8831	
	C194, C1106	CEAS220M25	CEAS220M50	
	R211, R212	RD1/4PU331J	Not used	
	R1211, R1212	Not used	RD1/4PU331J	*1
	410 Connector	Not used	51063-0705	*1

*Note *1: Refer to* B F.

FL AND UCOM Assy

AWZ8833 and AWZ8062 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AWZ8062	AWZ8833	
	IC826	PDG173A	PDG196A	

VIDEO Assy

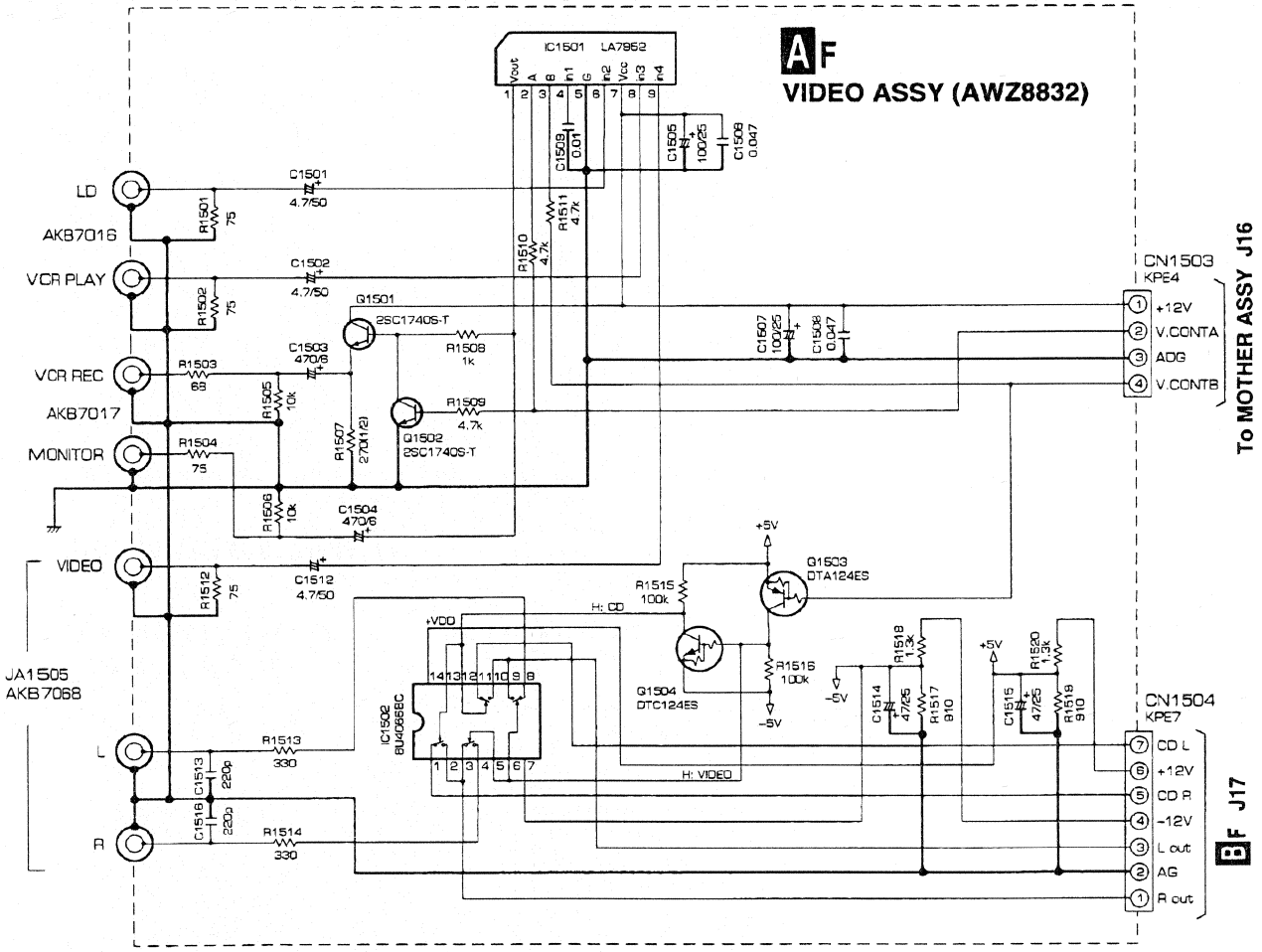
AWZ8832 and AWZ8066 have the same construction except for the following:

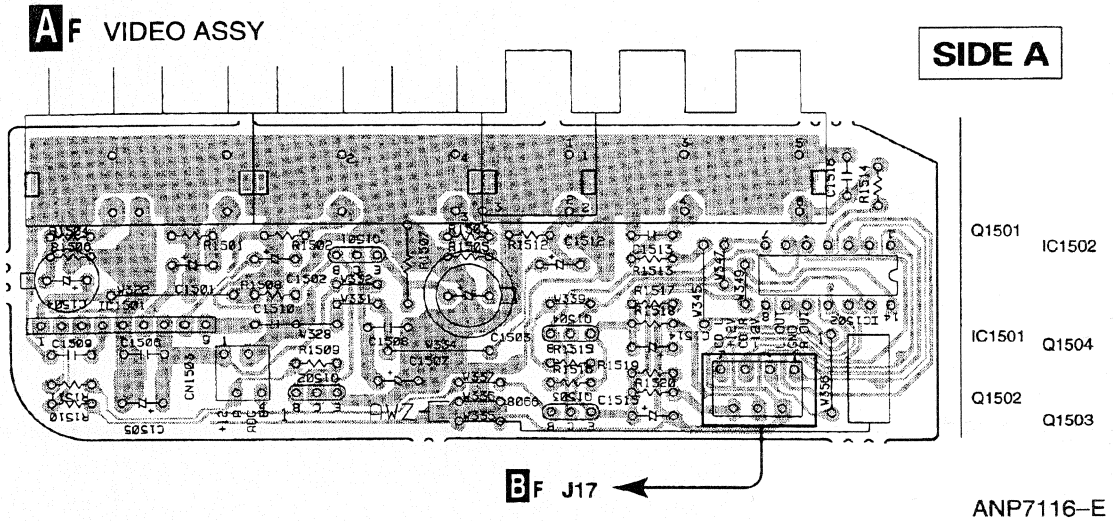
Mark	Symbol & Description	Part No.		Remarks
		AWZ8066	AWZ8832	
	IC1502	Not used	BU4066BC	*2
	Q1503	Not used	DTA124ES	*2
	Q1504	Not used	DTC124ES	*2
	C1510	CKCYF103Z50	Not used	
	C1512	Not used	CEAS4R7M50	*2
	C1513, C1516	Not used	CCCSL221J50	*2
	C1514, C1515	Not used	CEAS470M25	*2
	R1512	Not used	RD1/4PU750J	*2
	R1513, R1514	Not used	RD1/4PU331J	*2
	R1515, R1516	Not used	RD1/4PU104J	*2
	R1517, R1519	Not used	RD1/4PU911J	*2
	R1518, R1520	Not used	RD1/4PU132J	*2
	CN1504 7P Jumper Connector	Not used	KPE7	*2
	JA1505 Pin jack	Not used	AKB7068	*2

*Note *2: Refer to* A F.

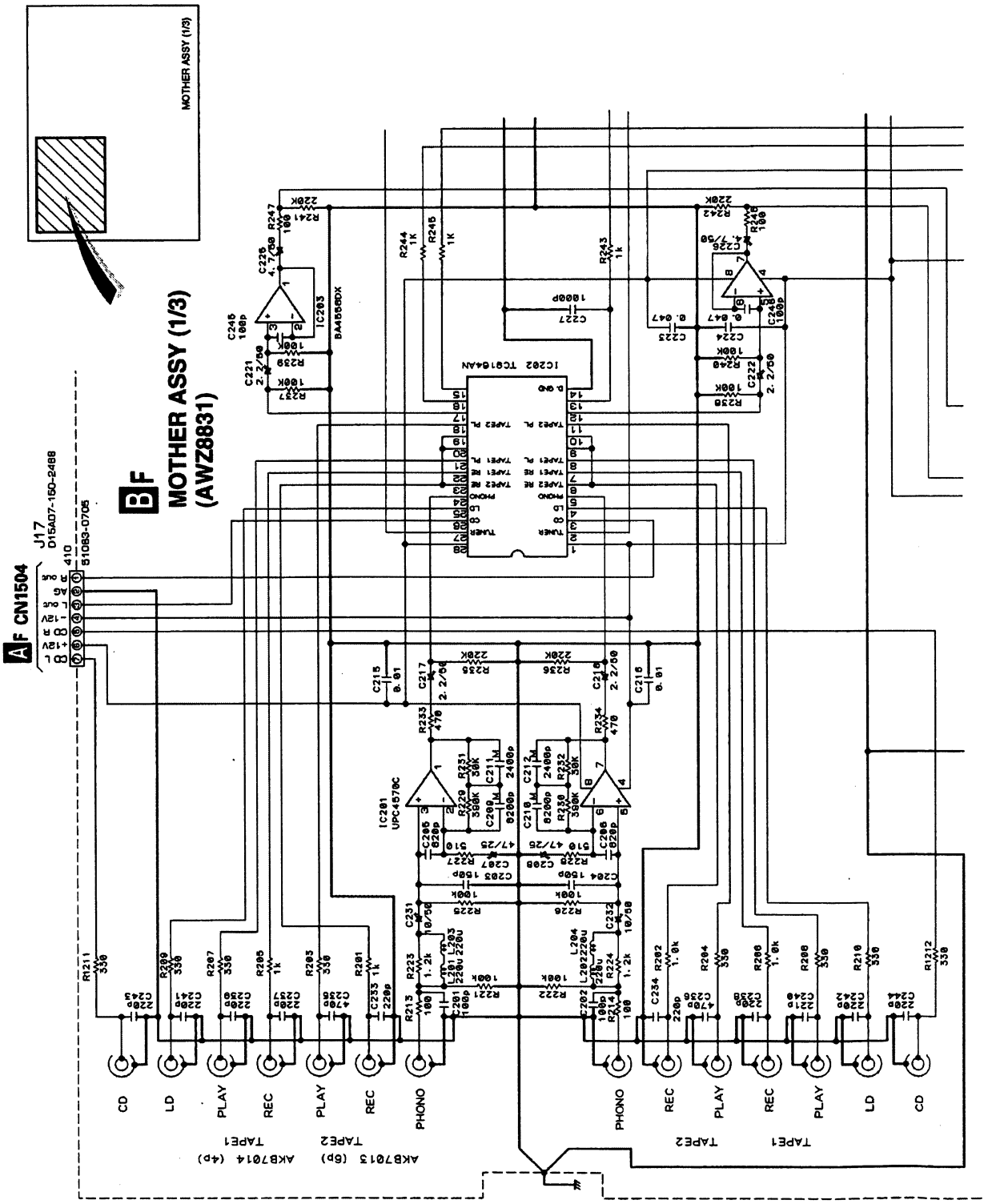
2. SCHEMATIC AND PCB DIAGRAM

2.1 VIDEO ASSY





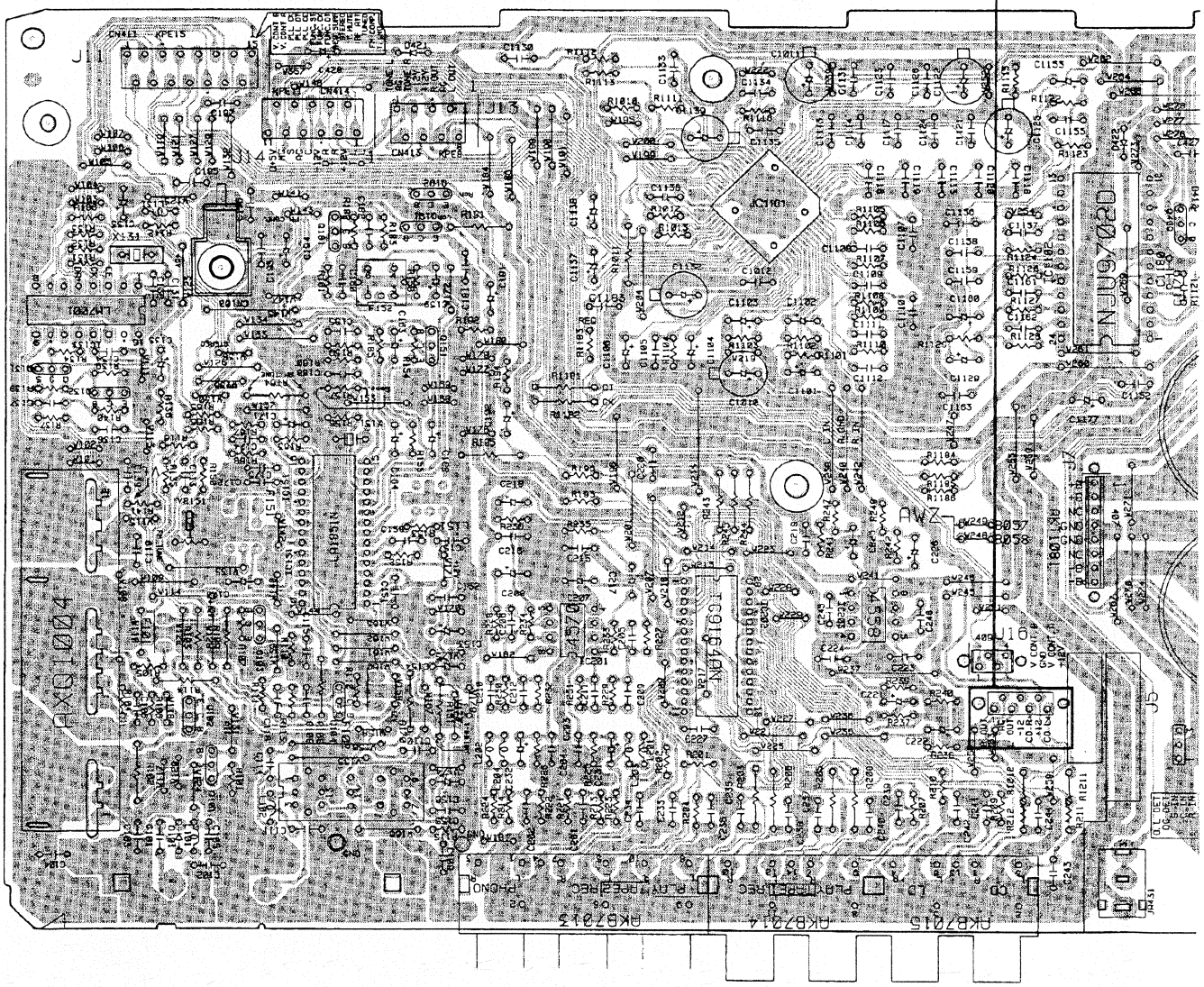
2.2 MOTHER ASSY (1/3)



VSX-505RDSMkII

BF MOTHER ASSY

AF CN1504



VR151

Q181 Q191 Q192

Q409

IC131 Q131 Q132

IC151

Q151

Q101 Q102

Q104

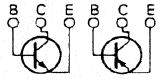
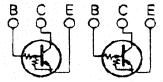
IC201

IC202

IC203

NOTE FOR PCB DIAGRAMS:

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

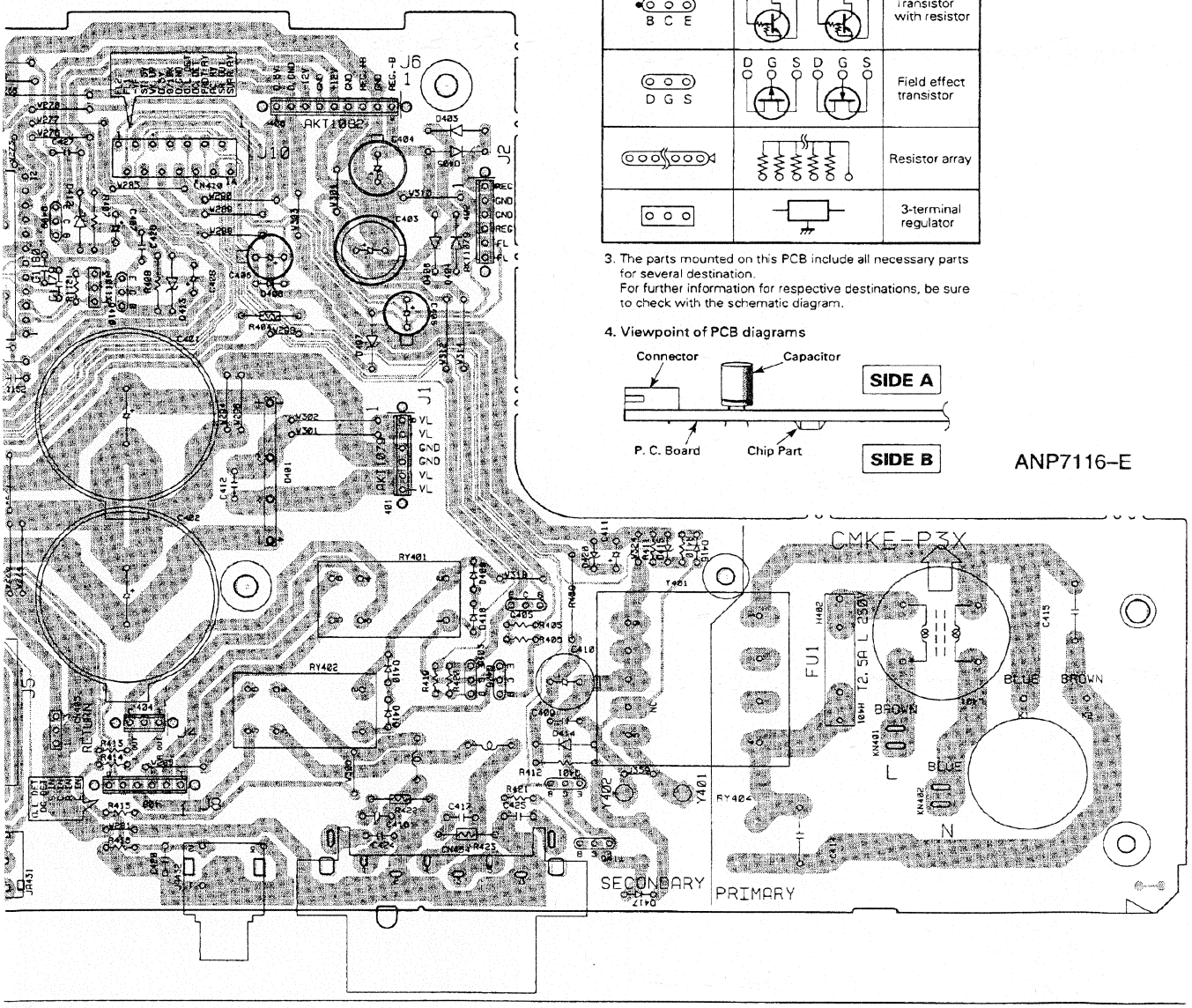
Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.

4. Viewpoint of PCB diagrams

ANP7116-E

SIDE A



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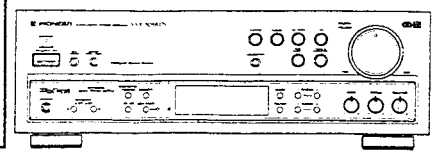

ORDER NO.
RRV1538

AUDIO/VIDEO STEREO RECEIVER

VSX-505RDS

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model VSX-505RDS	Model VSX-405RDS	Power Requirement	Remarks
HVXK		○	AC230V	
HYXK/EW		○	AC220–230V	
HYXK/GR		○	AC220–230V	

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T-SSG APR. 1996 Printed in Japan

1. DISASSEMBLY

CAUTION !

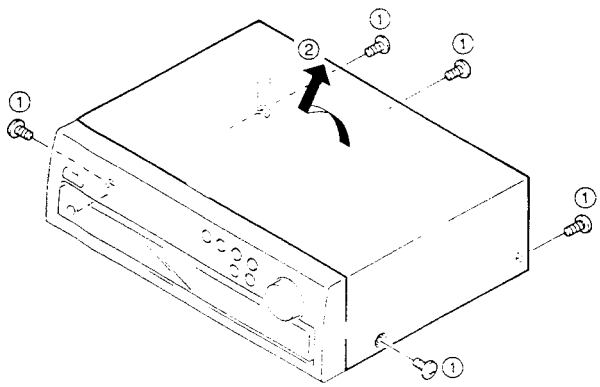
You will get an electric shock if you touch the Radiator (Heat-sink) when the power cord is connected to the power source. Also, the Electrolytic Capacitor contains a charge even when the power cord is unplugged, so the charge must be removed when the bonnet has been taken off.

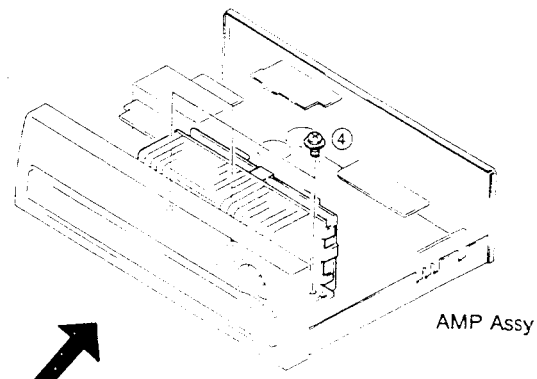
< Removeing the Charge >

① Connect the Radiator (top side) and either the Chassis or the Rear panel for 2 to 3 seconds with a Resistor of more than 5W/10Ω.

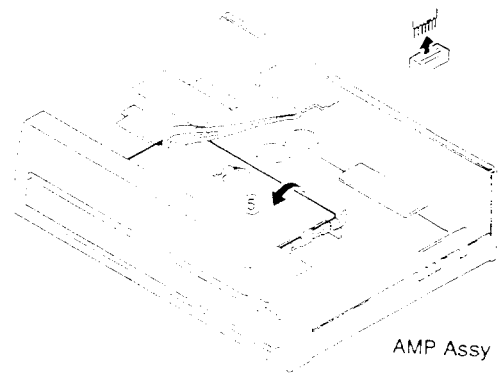
② Connect the +B lead on the J2 and either the Chassis or the Rear panel for 2 to 3 seconds with a Resistor of more than 5W/10Ω.

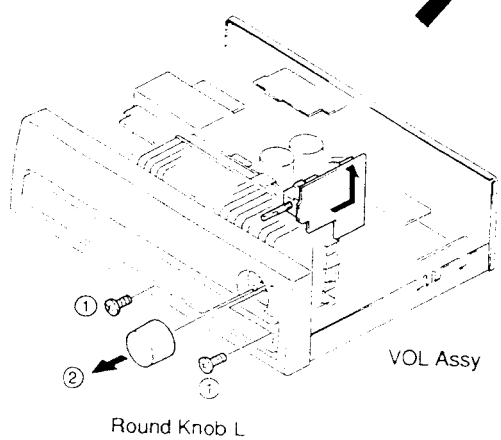
■ BONNET

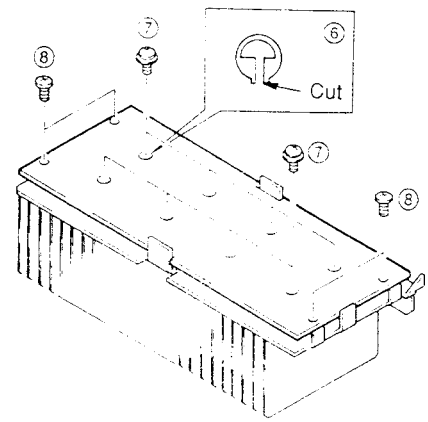




■ AMP ASSY







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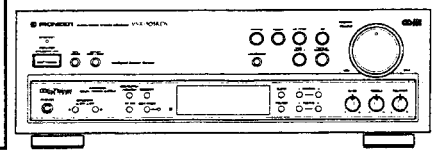

ORDER NO.
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AUDIO/VIDEO STEREO RECEIVER

VSX-505RDS
VSX-405RDS

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	VSX-405RDS		
HVXK	○	AC230V	
HYXK/EW	○	AC220–230V	
HYXK/GR	○	AC220–230V	

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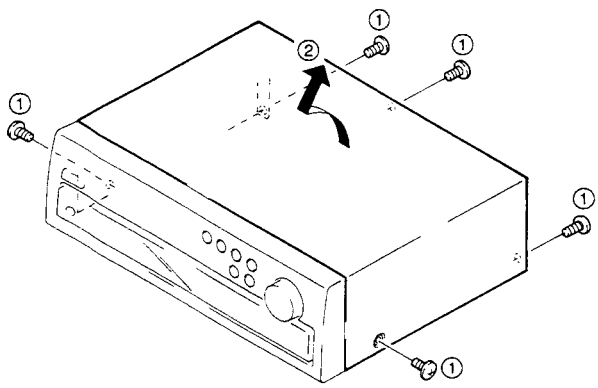
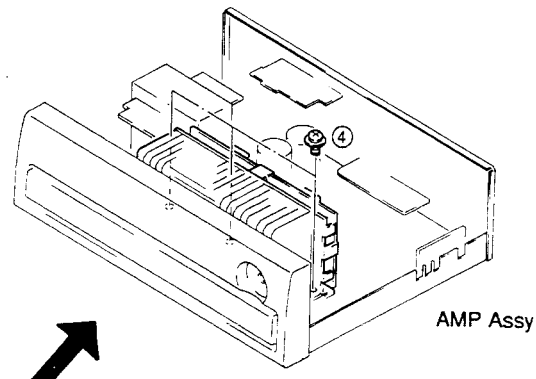
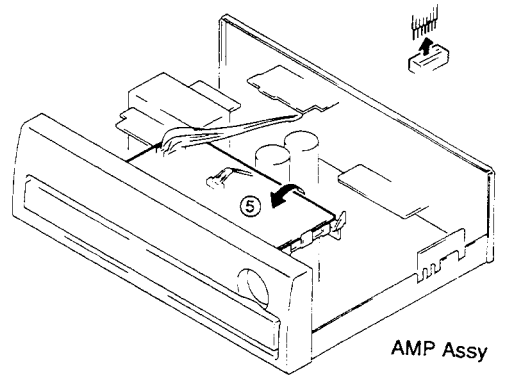
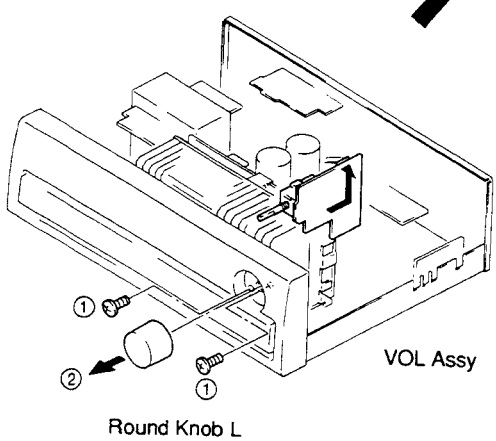
■ BONNET

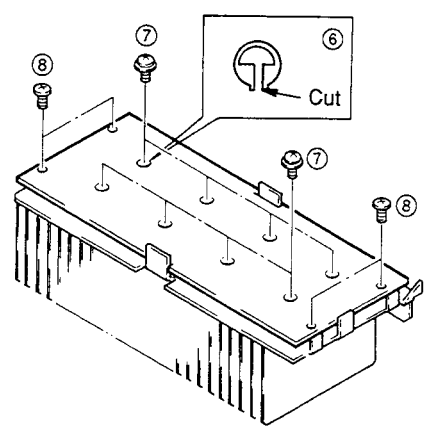




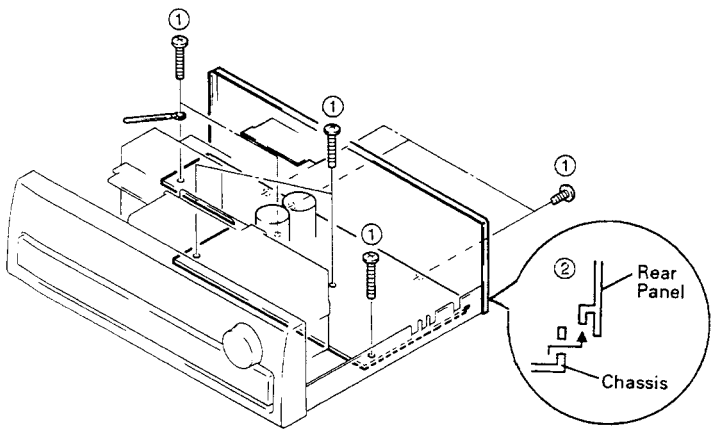
■ AMP ASSY

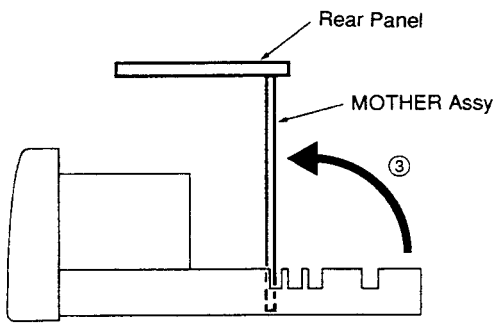




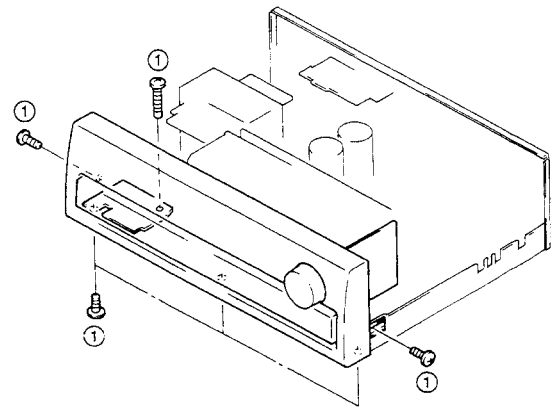


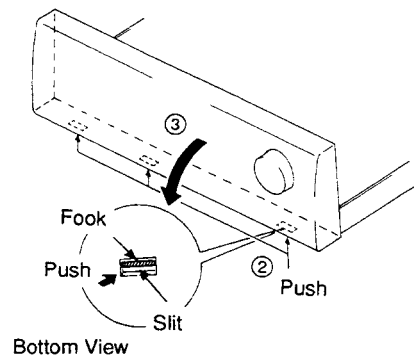
■ MOTHER ASSY

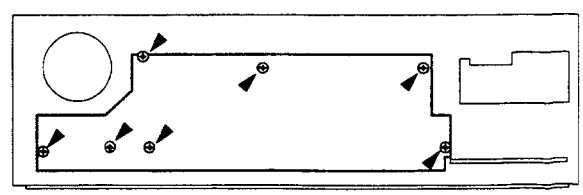




■ FL AND UCOM ASSY







Front Panel Section

2. EXPLODED VIEWS, PACKING AND PARTS LIST

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

2.1 PACKING

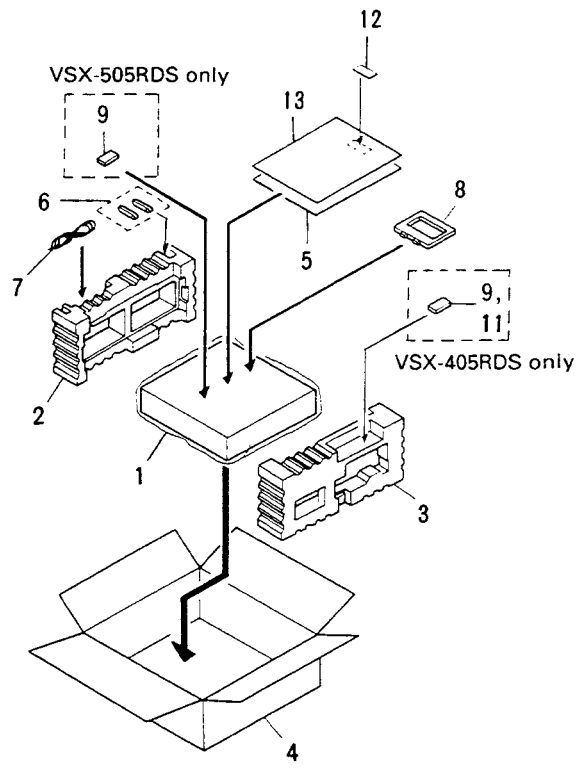
■ CONTRAST OF VSX-505RDS/HVXK, HYXK/EW, HYXK/GR, VSX-405RDS/HVXK, HYXK/EW AND HYXK/GR

VSX-505RDS/HVXK, HYXK/EW, HYXK/GR, VSX-405RDS/HVXK, HYXK/EW and HYXK/GR have the same construction except for the following:

Mark	No.	Symbol & Description	Part No.						Remarks
			VSX-505RDS			VSX-405RDS			
			HVXK	HYXK/EW	HYXK/GR	HVXK	HYXK/EW	HYXK/GR	
	4	Packing case	AHD7273	AHD7273	AHD7273	AHD7264	AHD7264	AHD7264	
	5	Operating instructions (English)	ARB7069	Not Used	Not Used	ARB7079	Not Used	Not Used	
	5	Operating instructions (Dutch/Swedish/Spanish/Portuguese)	Not Used	ARC7107	Not Used	Not Used	ARC7124	Not Used	
	5	Operating instructions (English/French/German/Italian)	Not Used	ARE7063	Not Used	Not Used	ARE7076	Not Used	
	5	Operating instructions (German)	Not Used	Not Used	ARC7108	Not Used	Not Used	ARC7108	
NSP	6	Battery (LR6P, AA)	AEX1007	AEX1007	AEX1007	Not Used	Not Used	Not Used	
NSP	6	Battery (R6P, AA)	Not Used	Not Used	Not Used	VEM-013	VEM-013	VEM-013	
	9	Remote control unit (CU-VSX106)	AXD7087	AXD7087	AXD7087	Not Used	Not Used	Not Used	
	9	Remote control unit (CU-VSX107)	Not Used	Not Used	Not Used	AXD7084	AXD7084	AXD7084	
	11	Battery cover	Not Used	Not Used	Not Used	AZA7123	AZA7123	AZA7123	

■ PARTS LIST FOR VSX-505RDS/HVXK

Mark	No.	Description	Part No.
	1	Packing sheet	AHG7028
	2	Front pad	AHA7115
	3	Rear pad	AHA7116
	4	Packing case	AHD7273
	5	Operating instructions (English)	ARB7069
NSP	6	Battery (LR6, AA)	AEX1007
	7	FM antenna assy	ADH7002
	8	Loop antenna assy	ADH7006
	9	Remote control unit (CU-VSX106)	AXD7087
	10	.....	
	11	.....	
	12	Serial sheet	AAX1523
NSP	13	Warranty card	ARY7010



2.3 EXTERIOR

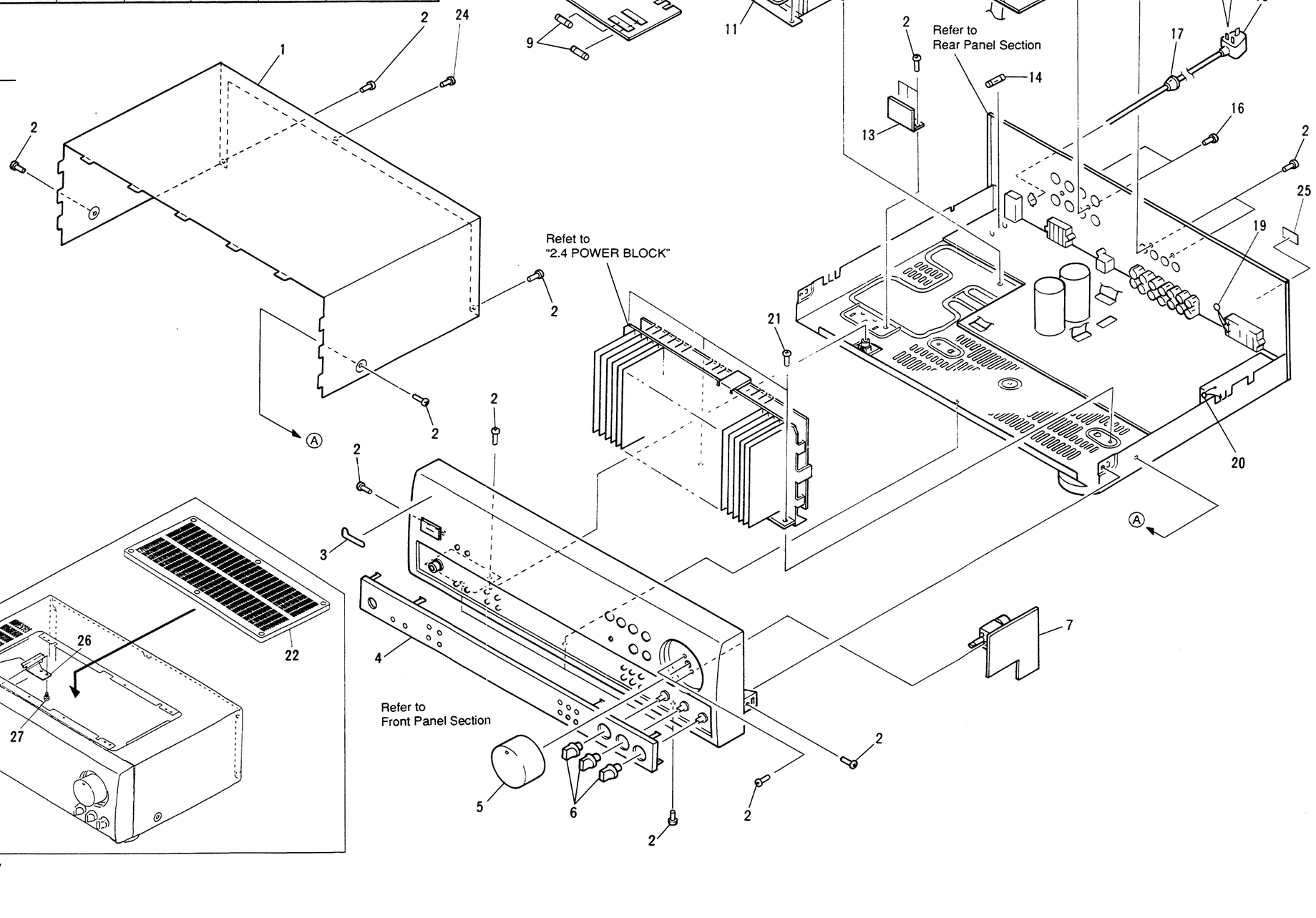
■ CONTRAST OF VSX-505RDS/HVXK, HYXK/EW, HYXK/GR, VSX-405RDS/HVXK, HYXK/EW AND HYXK/GR

VSX-505RDS/HVXK, HYXK/EW, HYXK/GR, VSX-405RDS/HVXK, HYXK/EW and HYXK/GR have the same construction except for the following:

Mark	No.	Symbol & Description	Part No.						Remarks
			VSX-505RDS			VSX-405RDS			
			HVXK	HYXK/EW	HYXK/GR	HVXK	HYXK/EW	HYXK/GR	
	1	Bonnet case	ANE7103	ANE7102	ANE7102	ANE7103	ANE7102	ANE7102	
NSP	12	VIDEO ASSY	AWZ8066	AWZ8066	AWZ8066	Not Used	Not Used	Not Used	
⚠	18	AC power cord	ADG1148	ADG1138	ADG1138	ADG1148	ADG1138	ADG1138	
	22	Top cover	AME1086	Not Used	Not Used	AME1086	Not Used	Not Used	
	23	Fuse (T5A/250V)	AEK1046	Not Used	Not Used	AEK1046	Not Used	Not Used	

■ PARTS LIST FOR VSX-505RDS/HVXK

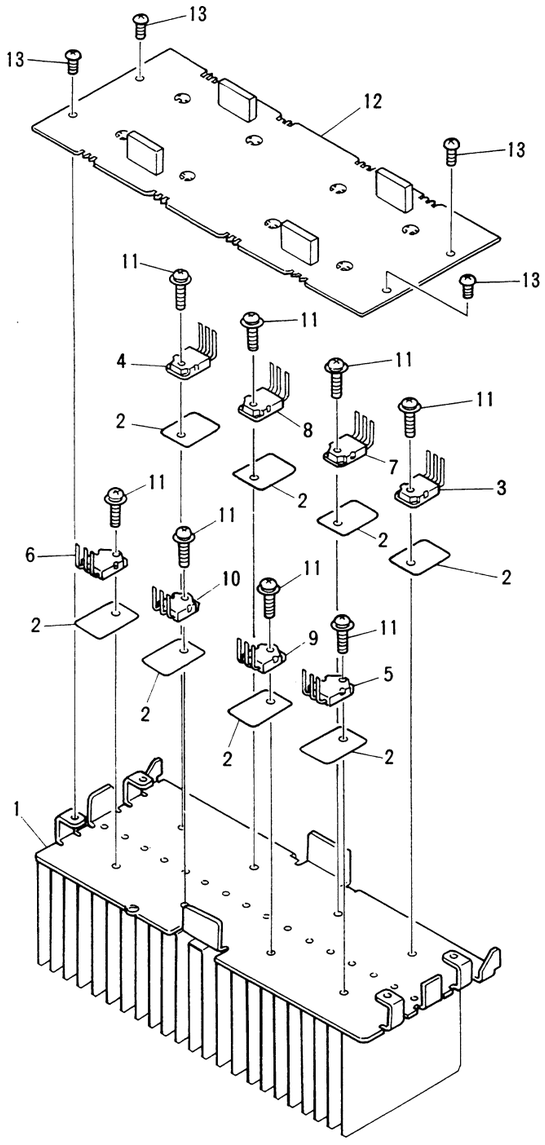
Mark	No.	Description	Part No.
	1	Bonnet case	ANE7103
	2	Screw	BBZ30P080FZK
	3	Badge	PAM1608
	4	FL panel	AAK7238
	5	Round knob L	AAB7082
	6	Round knob S	AAB7083
	7	VOL. ASSY	AWZ8079
NSP	8	TRANS ASSY	AWZ8073
⚠	9	Fuse (FU3, FU4, T1.25AL125V)	AEK1055
	10	Screw	ABA7019
⚠	11	Power transformer (T1, AC230V)	ATS7118
NSP	12	VIDEO ASSY	AWZ8066
NSP	13	REG. ASSY	AWZ8067
⚠	14	Fuse (FU1, T2.5AL250V)	AEK1058
NSP	15	FRONT SP. ASSY	AWZ8082
	16	Screw	ABA1007
	17	Strain relief	CM-22B
⚠	18	AC power cord	ADG1148
	19	Capacitor (C120)	CKDYB222K50
	20	Capacitor (C122)	CGDYX103M16
	21	Screw	ABA7019
	22	Top cover	AME1086
⚠	23	Fuse (T5A/250V, for AC power cord)	AEK1046
	24	Screw	BCZ30P080FZK
	25	Serial sheet	AAX1523
	26	Bonnet holder	ANG7105
	27	Screw	BPZ26P080FMC



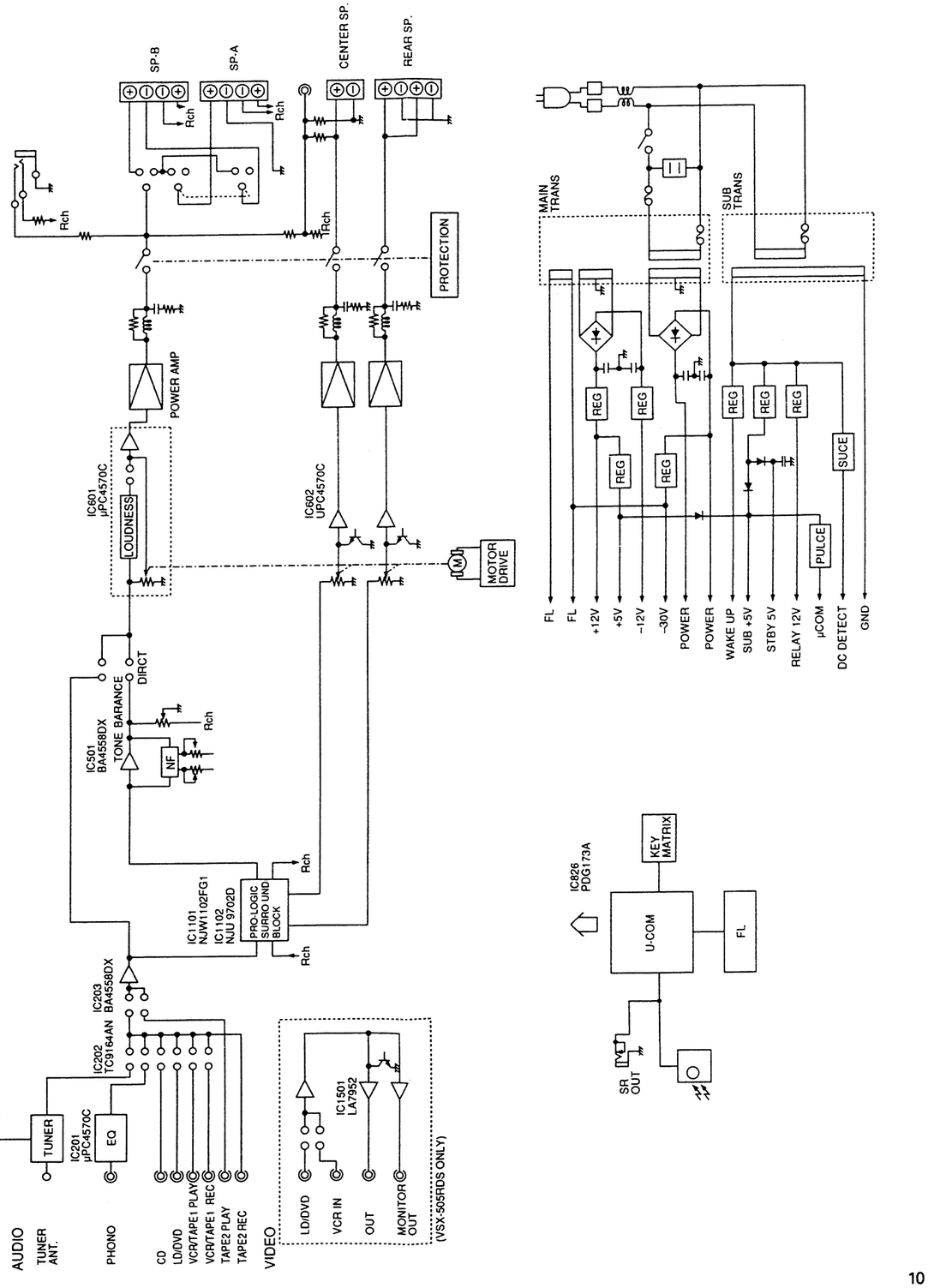
2.4 POWER BLOCK

■ PARTS LIST POWER BLOCK

Mark	No.	Description	Part No.
NSP	1	Radiator	ANH7037
	2	Mica wafer	AEE7010(P)
⚠	3	Transistor (Q3)	2SA1940(P)
⚠	4	Transistor (Q4)	2SA1940(P)
⚠	5	Transistor (Q13)	2SA1940(P)
⚠	6	Transistor (Q14)	2SA1940(P)
⚠	7	Transistor (Q1)	2SC5197(P)
⚠	8	Transistor (Q2)	2SC5197(P)
⚠	9	Transistor (Q11)	2SC5197(P)
⚠	10	Transistor (Q12)	2SC5197(P)
	11	Screw	ABA1037
	12	AMP ASSY	AWZ8076
	13	Screw	BBZ30P080FZK

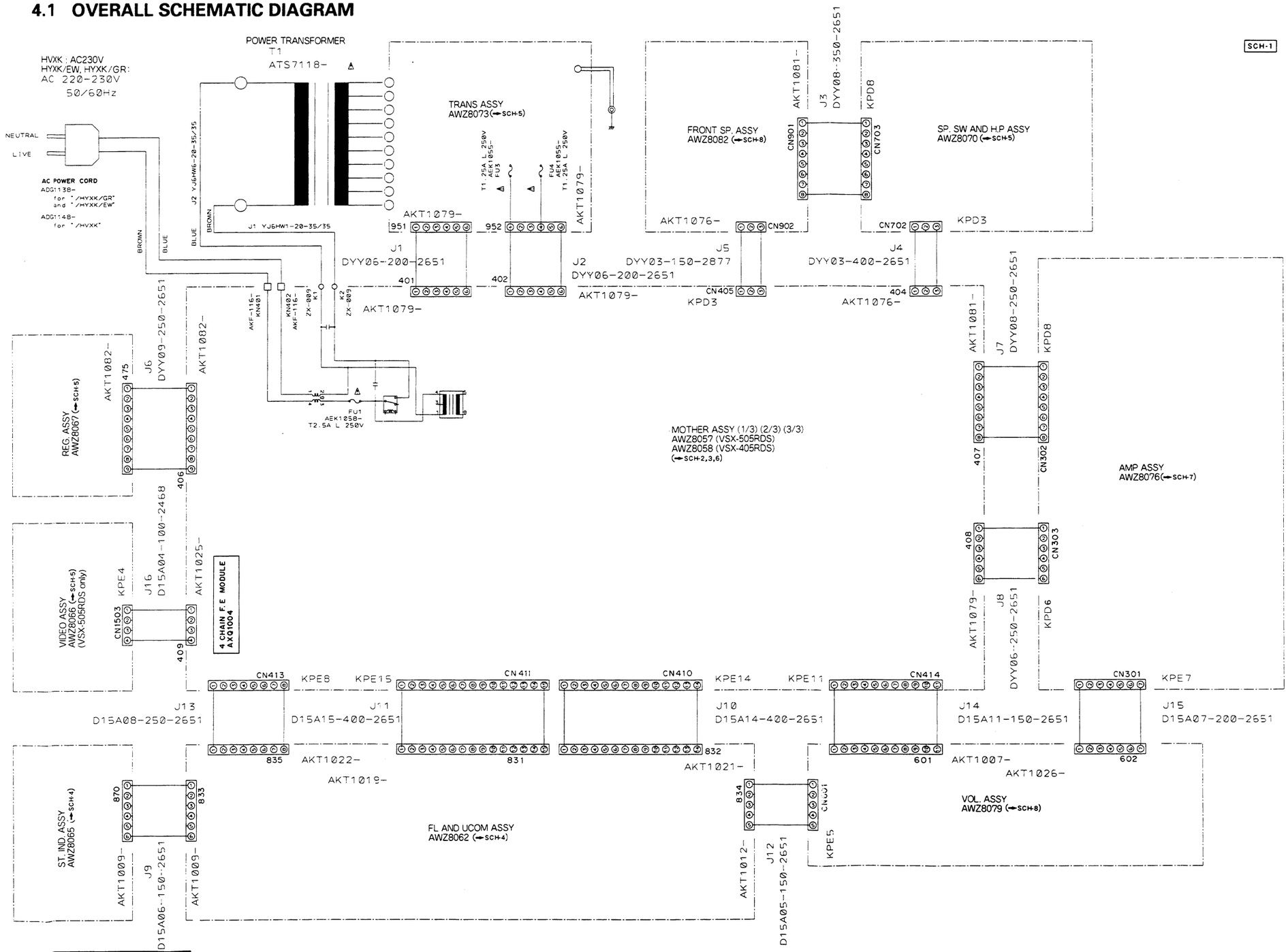


3. BLOCK DIAGRAM



4. SCHEMATIC AND PCB CONNECTION DIAGRAMS

4.1 OVERALL SCHEMATIC DIAGRAM



NOTE FOR SCHEMATIC DIAGRAMS (Type 1A)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   V : Signal voltage at rated output.
   or — V :
   DC voltage (V) at no input signal unless otherwise noted.
   Value in ( ) is DC voltage at rated power.
   ⇦ mA or — mA :
   DC current at no input signal unless otherwise noted.
7. **OTHERS:**
   - ⊘ or ⊘ : Adjusting point.
   - ◁ : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SCH—□ ON THE SCHEMATIC DIAGRAM**
   - SCH—□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
9. **SWITCHES** (Underline indicates switch position.)

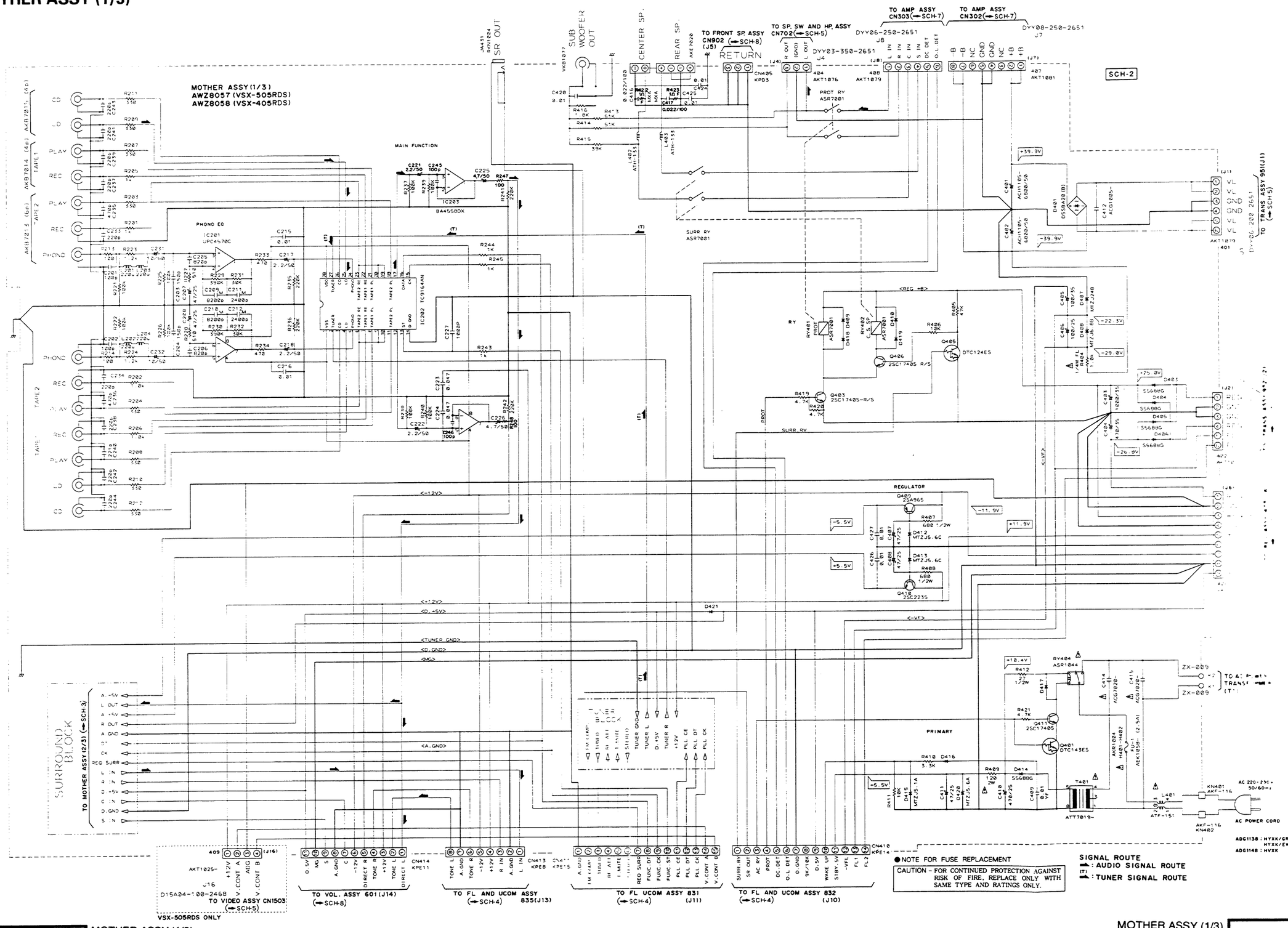
ST IND. ASSY
S876 : POWER STANDBY/ON
S877 : SFC MODE
S878 : DOLBY PRO LOGIC

FL AND UCOM ASSY
S825 : STATION +
S826 : STATION –
S827 : CLASS
S829 : EON MODE
S830 : TUNING +
S831 : TUNING –
S832 : FM/AM
S834 : CHARACTER/SEARCH
S835 : TAPE 2 MONITOR
S836 : VCR/TAPE 1
S837 : LOUDNESS
S839 : MEMORY
S840 : CD
S841 : LD/DVD
S842 : TUNER
S843 : PHONO
S844 : RF ATT

SP. SW AND HP. ASSY
S701 : SPEAKERS A OFF–ON
S702 : SPEAKERS B OFF–ON

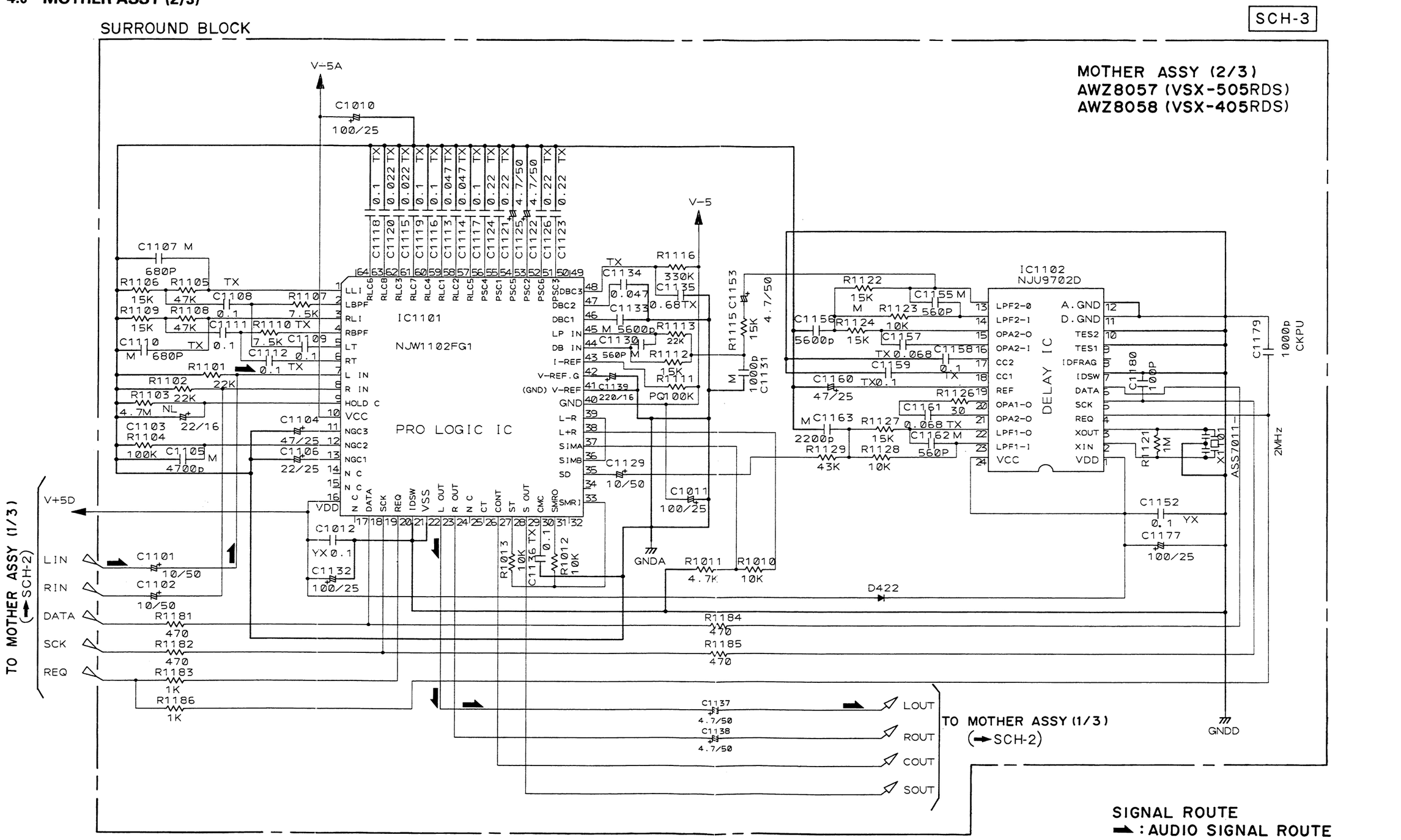
OVERALL SCHEMATIC DIAGRAM SCH-1

4.2 MOTHER ASSY (1/3)



MOTHER ASSY (1/3) SCH-2

4.3 MOTHER ASSY (2/3)



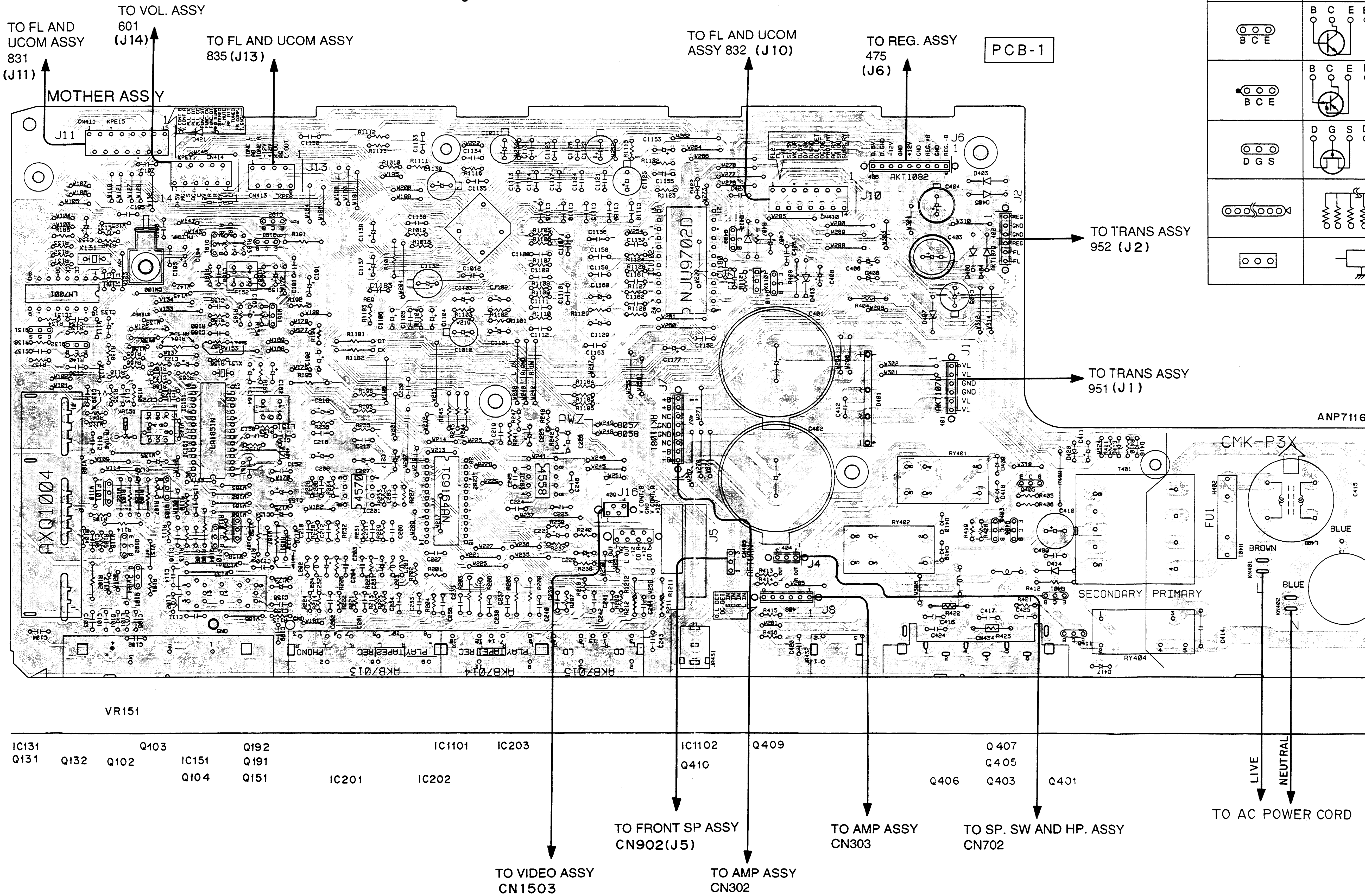
- The parts mounted on this PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.

- **This diagram is viewed from the mounted parts side.**

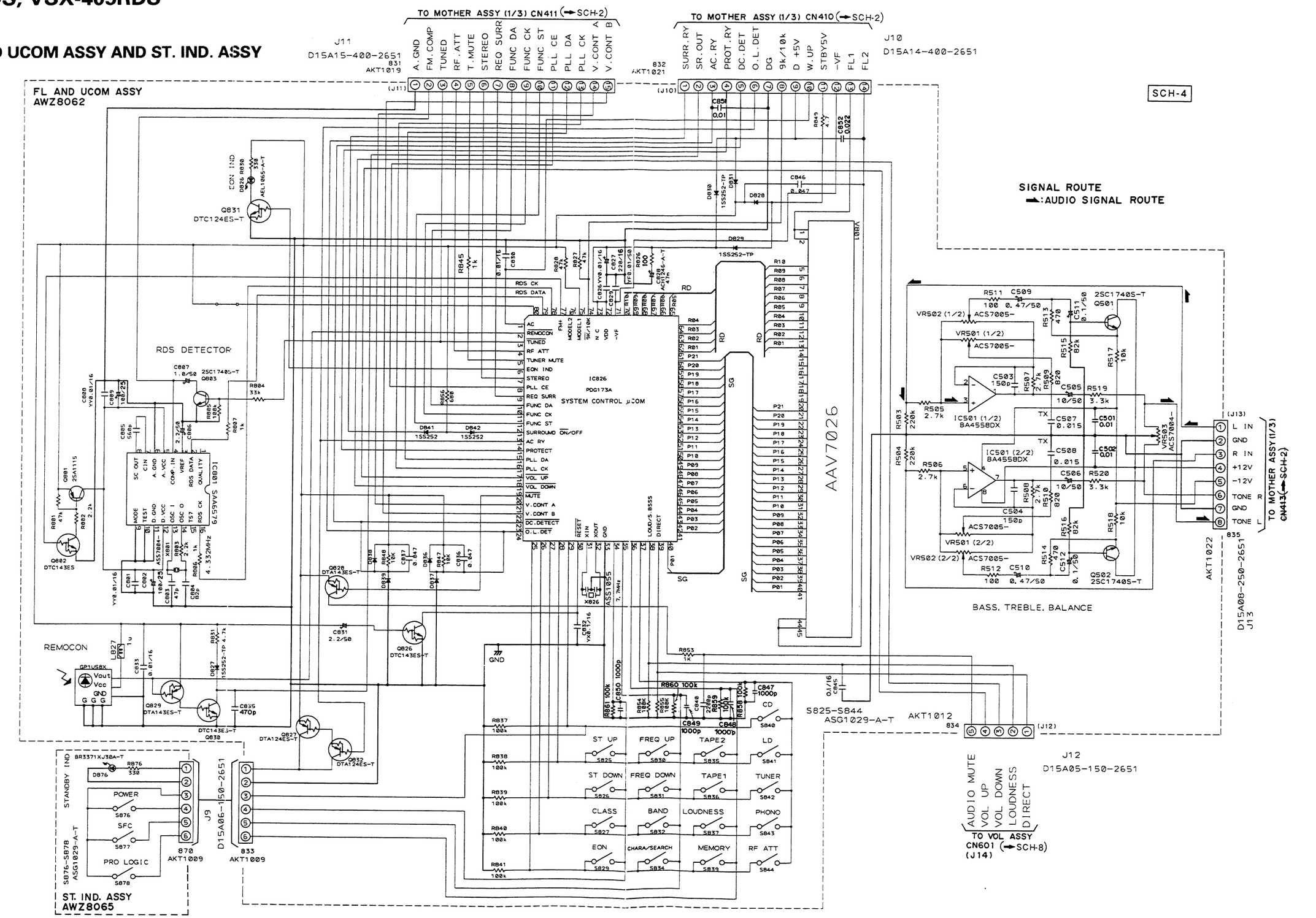
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3- terminal regulator

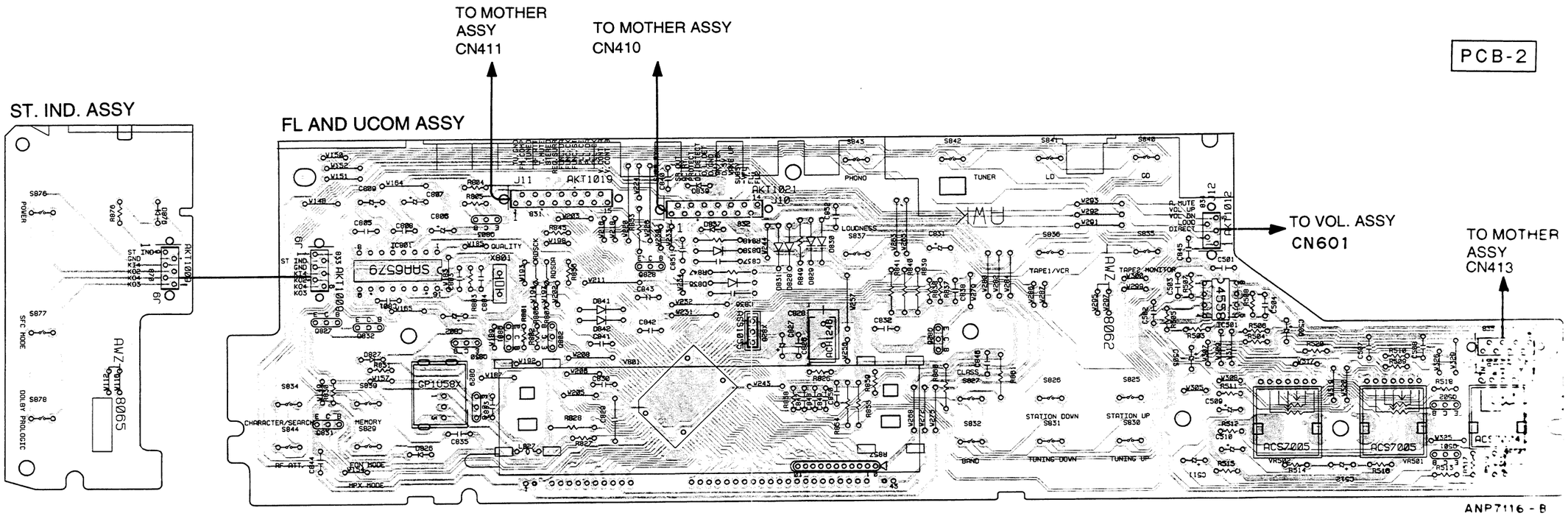
PCB-1



4.4 FL AND UCOM ASSY AND ST. IND. ASSY



- This diagram is viewed from the mounted parts side.

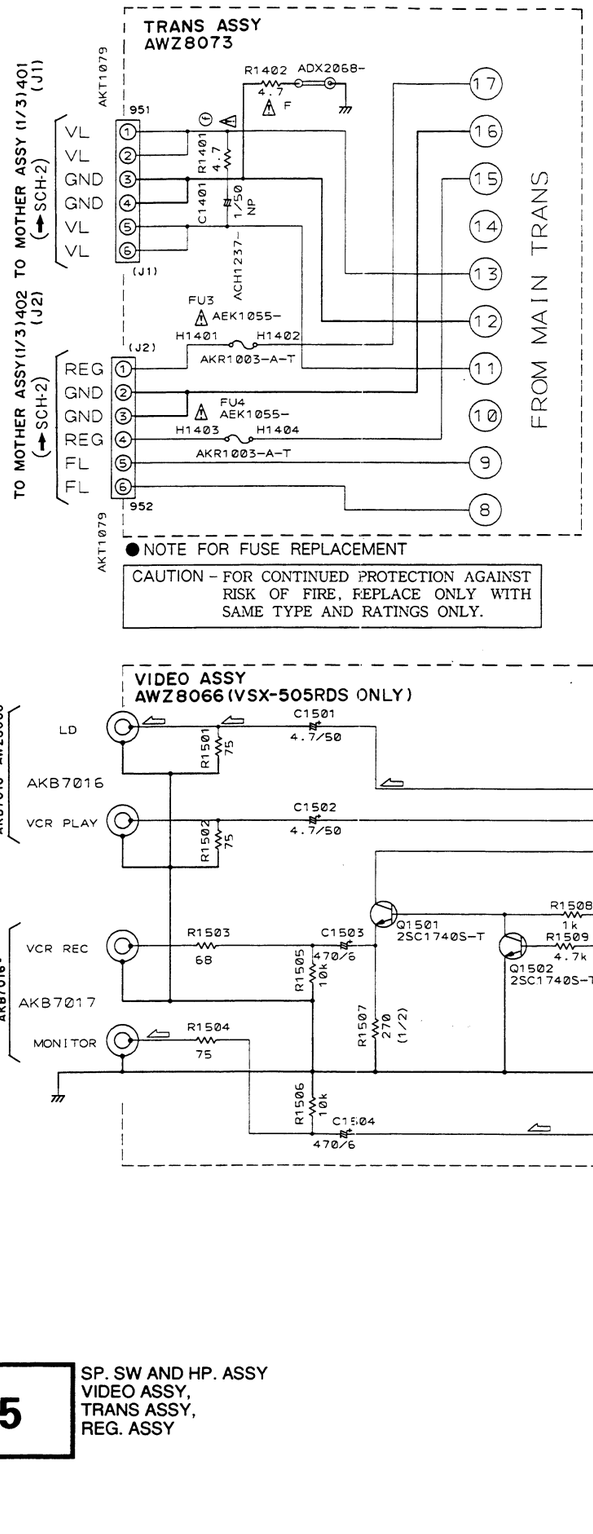


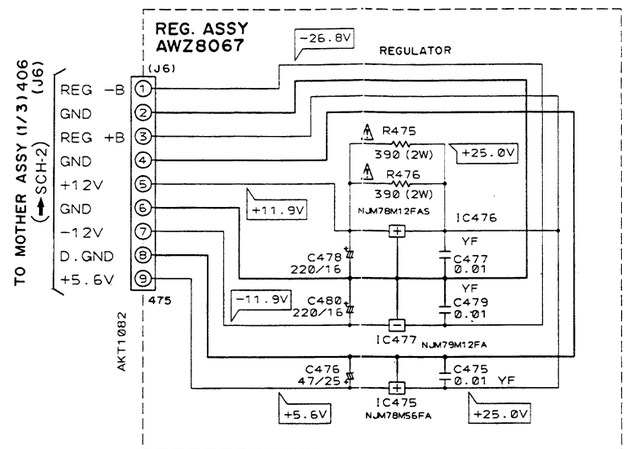
VR502 VR501 VR503

Q827 Q829 Q830 Q828 IC826 Q326 IC501

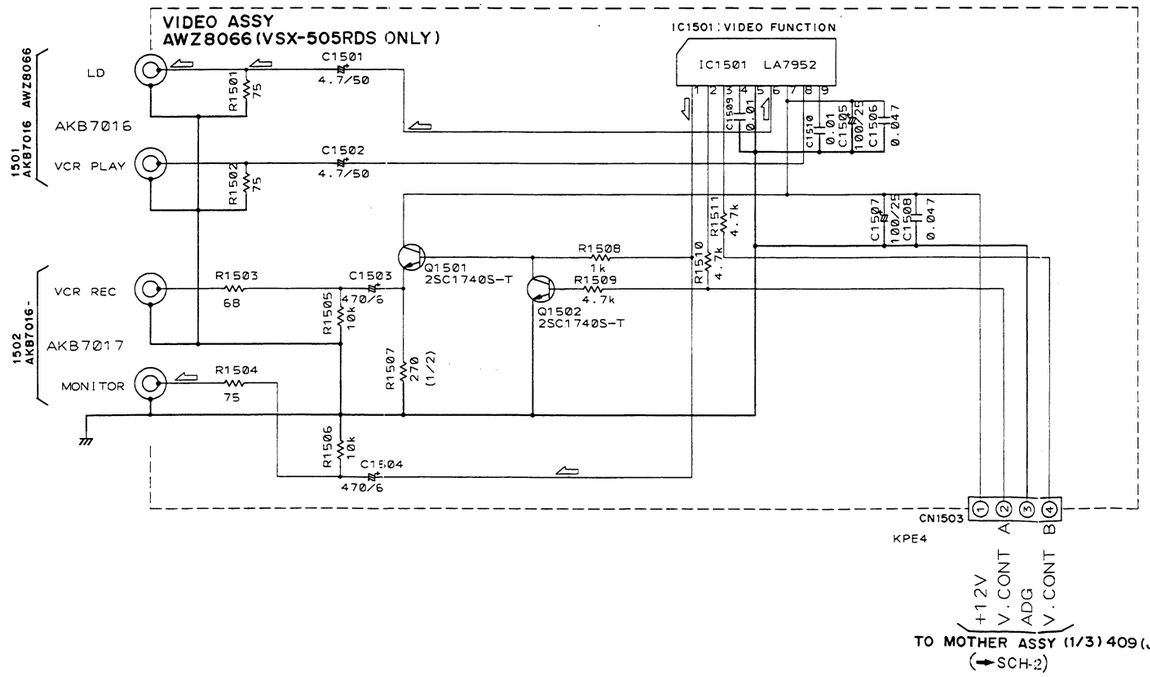
- The parts mounted on this PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.

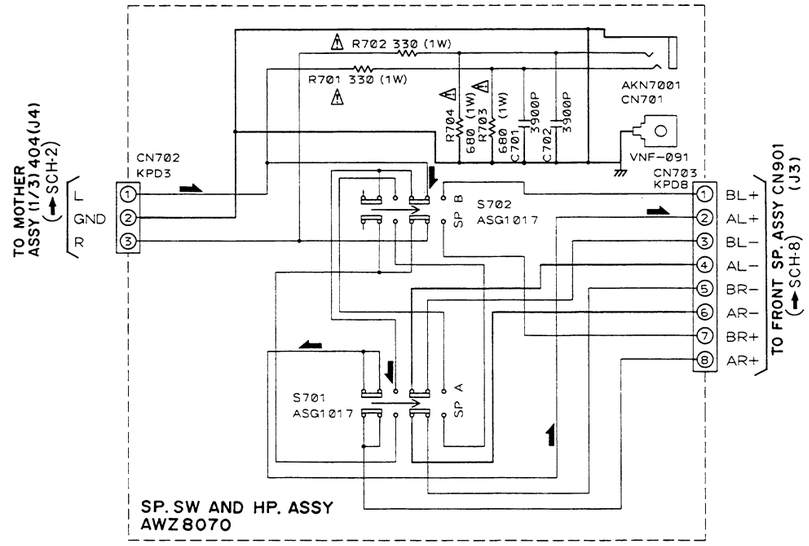
4.5 SP. SW AND HP. ASSY, VIDEO ASSY, TRANS ASSY AND REG. ASSY





SCH-5





SIGNAL ROUTE
▬ : AUDIO SIGNAL ROUTE
▭ : VIDEO SIGNAL ROUTE

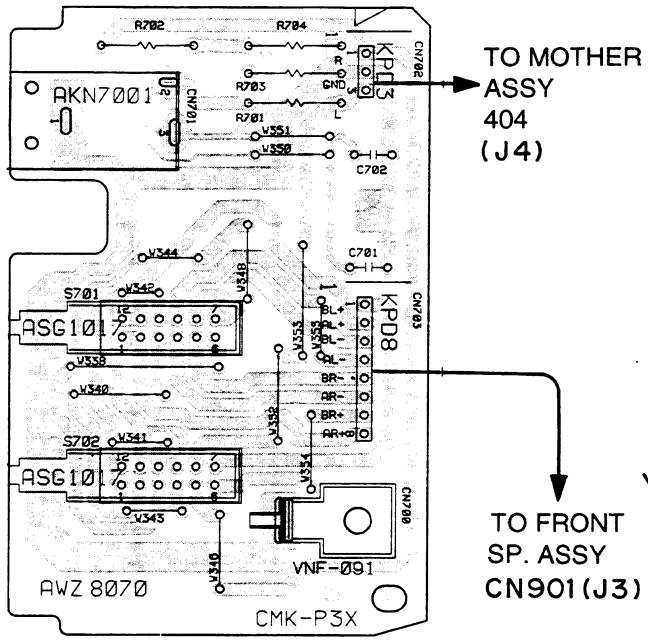
SP. SW AND HP. ASSY
VIDEO ASSY,
TRANS ASSY,
REG. ASSY
SCH-5

- The parts mounted on this PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.

- **This diagram is viewed from the mounted parts side.**

PCB-3

SP. SW AND HP. ASSY



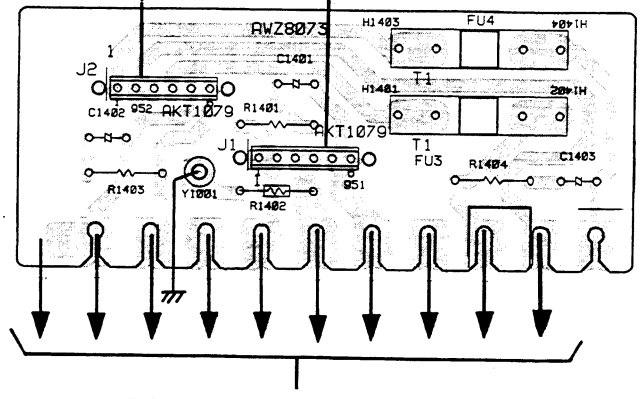
TO MOTHER ASSY 404 (J4)

TO FRONT SP. ASSY CN901 (J3)

TO MOTHER ASSY 402 (J2)

TO MOTHER ASSY 401 (J1)

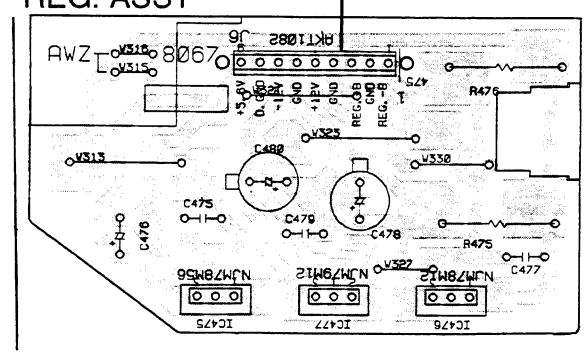
TRANS ASSY



TO POWER TRANSFORMER T1

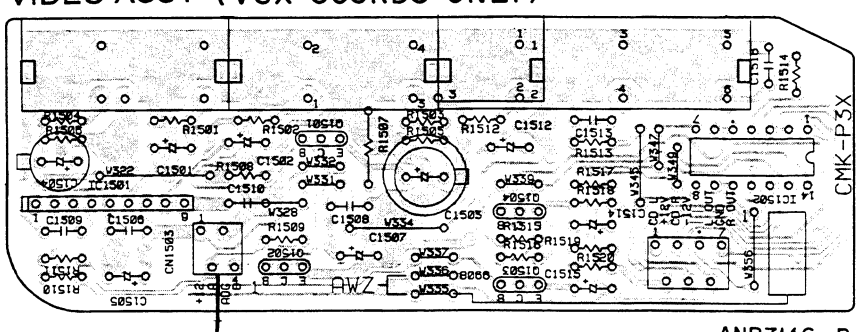
TO MOTHER ASSY 406 (J6)

REG. ASSY



IC475
IC477
IC476

VIDEO ASSY (VSX-505RDS ONLY)



Q1501
IC1502
Q1502

TO MOTHER ASSY 409 (J16)

SCH-6

MOTHER ASSY(3/3)
AWZ8057 (VSX-505RDS)
AWZ8058 (VSX-405RDS)

SIGNAL ROUTE
➡ : TUNER AUDIO SIGNAL ROUTE
(AM) ⇨ : AM SIGNAL ROUTE
(FM) ⇨ : FM SIGNAL ROUTE

4 CHAIN F.E MODULE AX01004
98.2M~118.7MHz
RF IN, GND, AGC, Vt, Vcc, IF OUT, GND, Vcc, GND, Vt, VCO

FM IF BPF
F101 ATF-119
F102 ATF-107
Q103 2SC2668-O/R
Q104 2SA854S
D101 1SV156
Q101 2SC1740S-R/S
Q102 DTA143ES-T
Q131 2SK246-Y
Q132 2SC1740SLN-R/S
F151 ATF-208
F152 ATF7003
Q191 2SA933S-Q/R
Q192 2SA933S-Q/R
Q151 2SA933S-Q/R
Q181 2SC1740S-R/S

FM
AM
BN101
RKE1002

AM RF&OSC
981K~2052KHz
or
980K~2150KHz

AM RF TUNING BLOCK
AXX7024

IC131
LM7001
PLL
7.2MHz
X131
ASS1042

FM/AM
IF. MPX

IC151
LA1851N

X151
456KHz
ASS1066

AM TUNE
FM TUNE
T-meter
STEREO SEPARATION

KN101
VNF-091

TO MOTHER ASSY(1/3)(➡SCH-2)

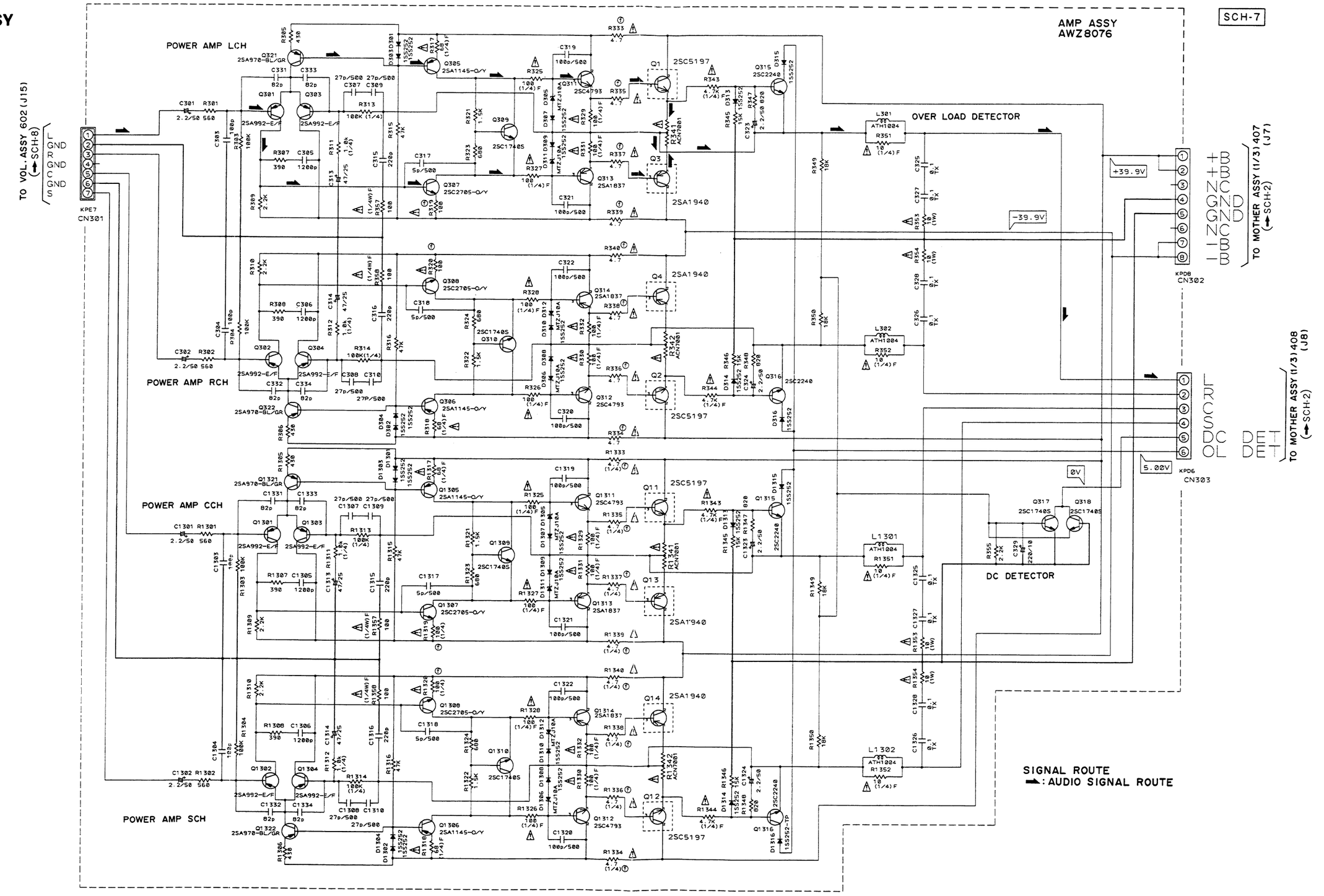
V+12
STEREO
TUNED
MUTE
V+5V
COMP.
CE
CK
DATA
ATT
M-

TO MOTHER ASSY(1/3)(➡SCH-2)

MOTHER ASSY (3/3)

SCH-6

4.7 AMP ASSY


AMP ASSY
AWZ8076
SCH-7
POWER AMP LCH
POWER AMP RCH
POWER AMP CCH
POWER AMP SCH
TO VOL. ASSY 602 (J15)
(➡SCH-8)
SGND
SGND
SGND
SGND
KPE7
CN301
OVER LOAD DETECTOR
DC DETECTOR
+39.9V
-39.9V
0V
5.00V
TO MOTHER ASSY (1/3) 407
(J7)
TO MOTHER ASSY (1/3) 408
(J8)
KPD8
CN302
KPD6
CN303
+B
+B
NC
GND
GND
NC
-B
-B
DC DET
OL DET
2SC5197
2SA1940
SIGNAL ROUTE
➡: AUDIO SIGNAL ROUTE

Mark	No.	Description	Part No.
	R157		RD1/6PM113J
	R223, R224		RD1/6PM122J
	R110		RD1/6PM151J
	R111, R113, R156		RD1/6PM152J
	R104, R1106, R1109, R1112, R1115		RD1/6PM153J
	R1122, R1124, R1127		RD1/6PM153J
	R416		RD1/6PM182J
	R105, R108, R135, R141, R181		RD1/6PM221J
	R193, R196		RD1/6PM221J
	R109, R150		RD1/6PM222J
	R1101, R1102, R1113, R151		RD1/6PM223J
	R235, R236, R241, R242		RD1/6PM224J
	R191, R194		RD1/6PM272J
	R1126		RD1/6PM300J
	R231, R232		RD1/6PM303J
	R101		RD1/6PM330J
	R112, R203, R204, R207-R212		RD1/6PM331J
	R154, R410		RD1/6PM332J
	R152		RD1/6PM333J
	R1116		RD1/6PM334J
	R107		RD1/6PM391J
	R153, R166		RD1/6PM392J
	R415		RD1/6PM393J
	R229, R230		RD1/6PM394J
	R1129		RD1/6PM433J
	R116, R1181, R1182, R1184, R1185		RD1/6PM471J
	R233, R234		RD1/6PM471J
	R1011, R114, R134, R182		RD1/6PM472J
	R419-R421		RD1/6PM472J
	R1105, R1108, R185, R405		RD1/6PM473J
	R1103		RD1/6PM475J
	R227, R228		RD1/6PM511J
	R155		RD1/6PM512J
	R413, R414		RD1/6PM513J
	R106, R138-R140, R158		RD1/6PM561J
	R137		RD1/6PM562J
	R1107, R1110		RD1/6PM752J
	R159, R160, R163		RD1/6PM912J
	R164		RD1/6PM913J
	R1111		RN1/6PQ1003F
⚠	R409		RS2LMF121J
	VR151 (10kΩ/0.1W)		ACP1043
	Other Resistors		RD1/4PU□□□J

OTHERS

	201	PIN JACK 6P	AKB7013
	202	PIN JACK 4P	AKB7014
	CN203	PIN JACK 4P	AKB7015
	CN434	6P SPEAKER TERMINAL	AKE7020
	H401, H402	FUSE CLIP	AKR1003
	404	3P CABLE HOLDER	AKT1076
	401, 402, 408	6P CABLE HOLDER	AKT1079
	407	8P CABLE HOLDER	AKT1081
	406	9P CABLE HOLDER	AKT1082
	CN414	11P JUMPER CONNECTOR	KPE11
	CN410	14P JUMPER CONNECTOR	KPE14
	CN411	15P JUMPER CONNECTOR	KPE15
	CN413	8P JUMPER CONNECTOR	KPE8
	JA431	REMOTE CONTROL JACK (12V)	PKN1004
	101	ANTENNA TERMINAL	RKE1002
	JA432	1P PIN JACK	VKB1077
	102	EARTH METAL FITTING	VNF-091
	111	AM RF TUNING BLOCK	AXX7024

4 CHAIN F.E MODULE

4 CHAIN F.E MODULE has no service part.

FL AND UCOM ASSY

SEMICONDUCTORS

	IC501	BA4558DX
	IC826	PDG173A
	IC801	SAA6579
	Q801	2SA1115
	Q501, Q502, Q803	2SC1740S
	Q827, Q832	DTA124ES
	Q828, Q829	DTA143ES
	Q831	DTC124ES
	Q802, Q826, Q830	DTC143ES
	D827-D831, D836-D839	1SS252
	D841, D842	1SS252
	D826	AEL1065

COILS AND FILTERS

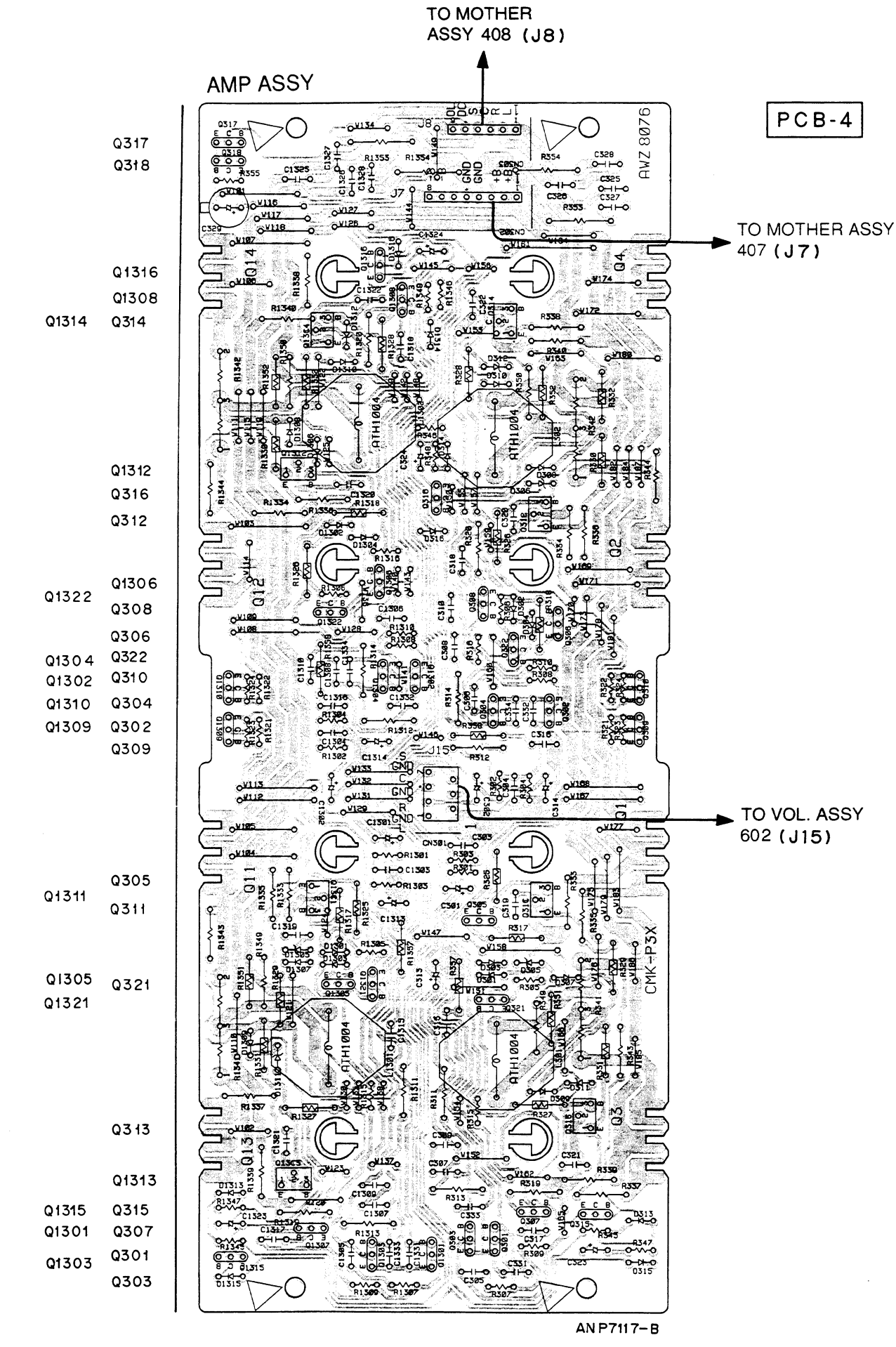
	X826	ASS1055
	X801	ASS7004
	L827	LAU010J

SWITCHES AND RELAYS

	S825-S827, S829-S832	ASG1029
	S834-S837, S839-S844	ASG1029

CAPACITORS

	C828	ACH1246
	C803	CCCCH470J50
	C804	CCCCH820J50
	C503, C504	CCCSL151J50
	C835	CCCSL471J50
	C807	CEAS010M50
	C511, C512	CEAS0R1M50
	C505, C506	CEAS100M50
	C802, C809	CEAS101M25
	C827	CEAS221M16
	C806, C831	CEAS2R2M50
	C509, C510	CEASR47M50
	C507, C508	CFTXA153J50
	C832, C845	CGCYX104M[illegible]6
	C805	CKCYB561K[illegible]0
	C501, C502, C851	CKCYF103Z50
	C852	CKCYF223Z50
	C846	CKCYF473Z50
	C847-C850	CKPUYB102[illegible]50
	C836, C837	CKPUYF473[illegible]50


TO MOTHER
ASSY 408 (J8)
AMP ASSY
PCB-4
TO MOTHER ASSY
407 (J7)
TO VOL. ASSY
602 (J15)
Q317
Q318
Q1316
Q1308
Q1314
Q314
Q1312
Q316
Q312
Q1306
Q1322
Q308
Q306
Q1304
Q322
Q1302
Q310
Q1310
Q304
Q1309
Q302
Q309
Q305
Q1311
Q311
Q1305
Q321
Q1321
Q313
Q1313
Q1315
Q315
Q1301
Q307
Q1303
Q301
Q303
CMK-P3X
ATH1004
AWZ 8076

ANP7117-B

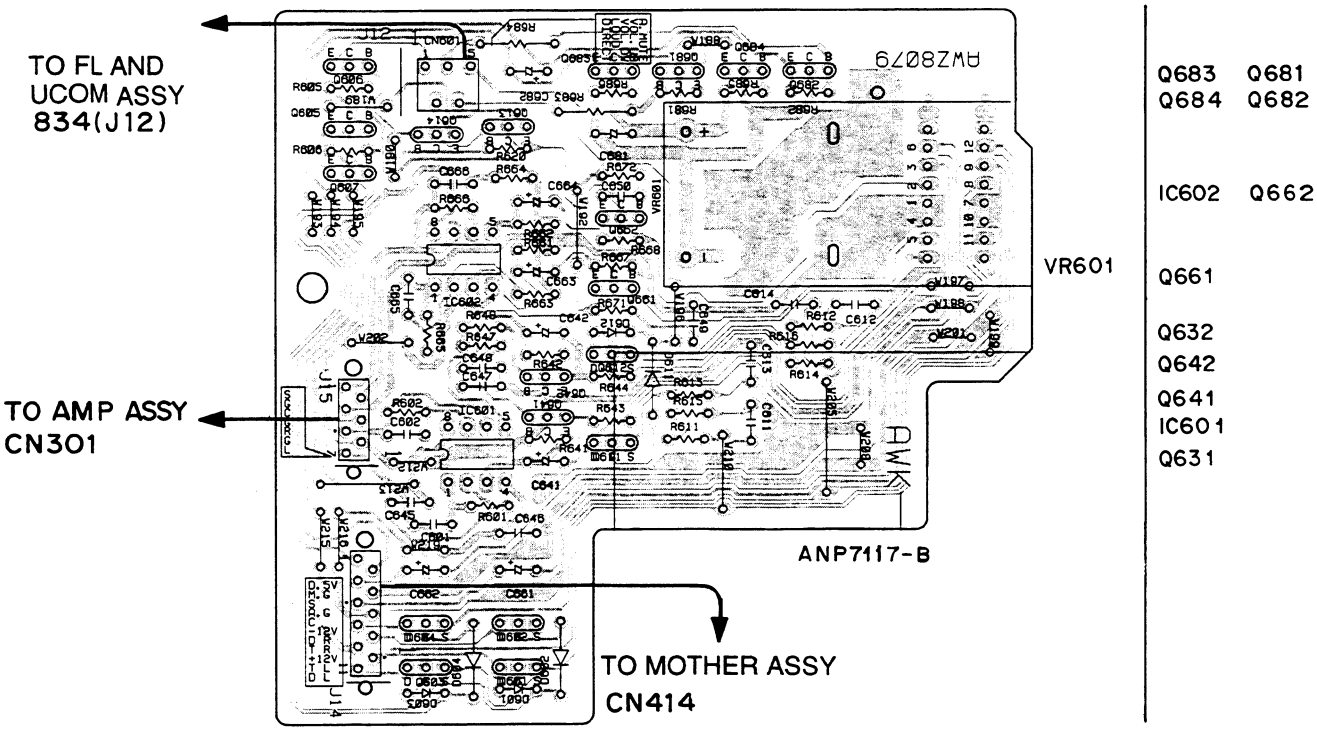
4.8 VOL. ASSY AND FRONT SP. ASSY

- The parts mounted on this PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.

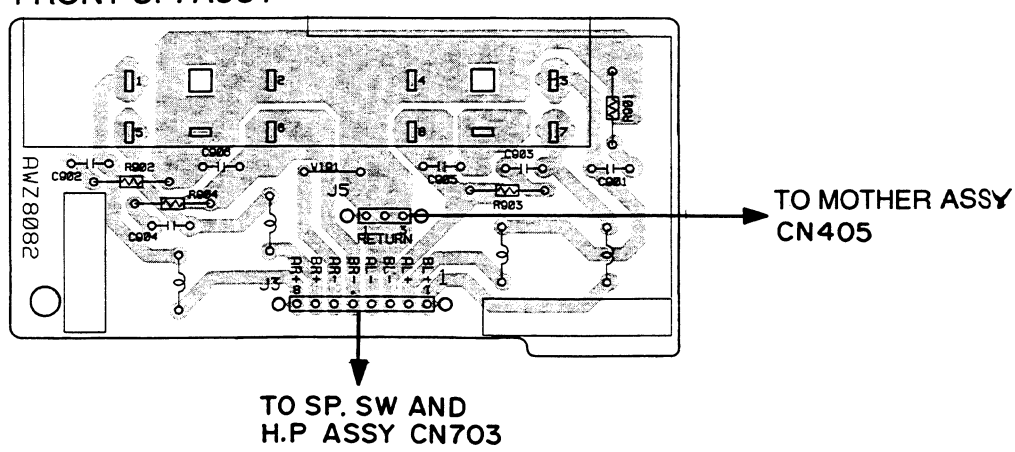
- **This diagram is viewed from the mounted parts side.**

PCB-5

VOL. ASSY



FRONT SP. ASSY



5. PCB PARTS LIST

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47K ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56 × 10¹ → 561 ..... RD1/4PU 5 6 1 J
47 kΩ → 47 × 10³ → 473 ..... RD1/4PU 4 7 3 J
0.5 Ω → 0R5 ..... RN2H 0 R 5 K
1 Ω → 1R0 ..... RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62 kΩ → 562 × 10¹ → 5621 ..... RN1/4PC 5 6 2 1 F

■ LIST OF WHOLE PCB ASSEMBLIES

Mark	PCB Assemblies	Part No.						Remarks
		VSX-505RDS			VSX-405RDS			
		HVXK	HYXK/EW	HYXK/GR	HVXK	HYXJ/EW	HYXK/GR	
	MAIN ASSY	AWK7235	AWK7235	AWK7235	AWK7233	AWK7233	AWK7233	
	├ MOTHER ASSY	AWZ8057	AWZ8057	AWZ8057	AWZ8058	AWZ8058	AWZ8058	
	└ 4 CHAIN F.E MODULE	AXQ1004	AXQ1004	AXQ1004	AXQ1004	AXQ1004	AXQ1004	
	├ FL AND UCOM ASSY	AWZ8062	AWZ8062	AWZ8062	AWZ8062	AWZ8062	AWZ8062	
NSP	├ ST. IND. ASSY	AWZ8065	AWZ8065	AWZ8065	AWZ8065	AWZ8065	AWZ8065	
NSP	├ VIDEO ASSY	AWZ8066	AWZ8066	AWZ8066	Not Used	Not Used	Not Used	
NSP	├ REG ASSY	AWZ8067	AWZ8067	AWZ8067	AWZ8067	AWZ8067	AWZ8067	
NSP	├ SP. SW AND H.P ASSY	AWZ8070	AWZ8070	AWZ8070	AWZ8070	AWZ8070	AWZ8070	
NSP	└ TRANS ASSY	AWZ8073	AWZ8073	AWZ8073	AWZ8073	AWZ8073	AWZ8073	
	AMP AND VOL. ASSY	AWK7236	AWK7236	AWK7236	AWK7236	AWK7236	AWK7236	
	├ AMP ASSY	AWZ8076	AWZ8076	AWZ8076	AWZ8076	AWZ8076	AWZ8076	
	├ VOL. ASSY	AWZ8079	AWZ8079	AWZ8079	AWZ8079	AWZ8079	AWZ8079	
NSP	└ FRONT SP. ASSY	AWZ8082	AWZ8082	AWZ8082	AWZ8082	AWZ8082	AWZ8082	

■ CONTRAST OF PCB ASSEMBLIES

MOTHER ASSY

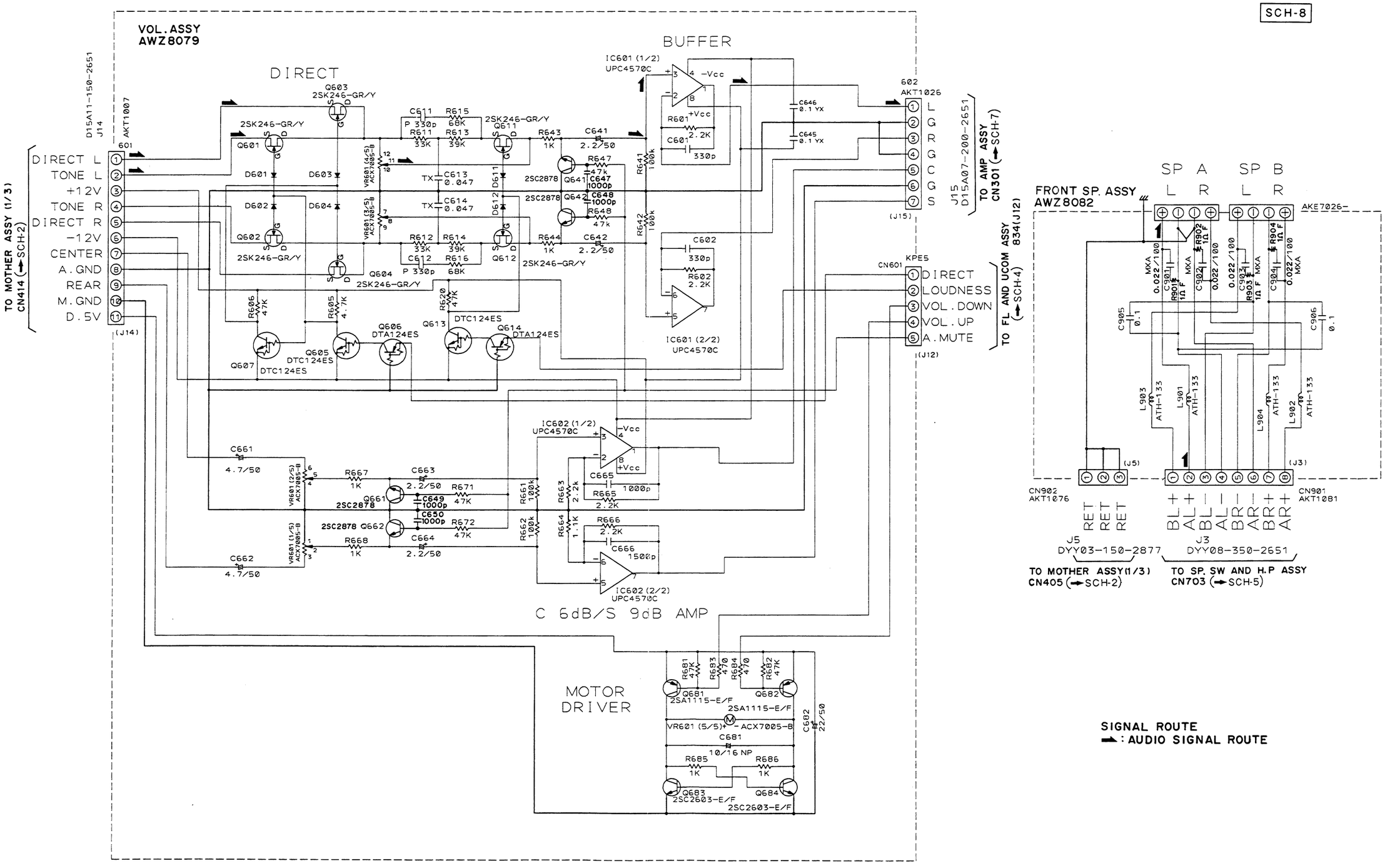
Although AWZ8057 and AWZ8058 are different in part number, they have the same service parts.

■ PARTS LIST FOR VSX-505RDS

MOTHER ASSY

Mark	No.	Description	Part No.
		SEMICONDUCTORS	
	IC203		BA4558DX
	IC151		LA1851N
	IC131		LM7001J
	IC1102		NJU9702D
	IC1101		NJW1102FG1
	IC202		TC9164AN
	IC201		UPC4570C
	Q104		2SA854S
	Q151, Q191, Q192		2SA933S
	Q409		2SA965
	Q101, Q181, Q403, Q406, Q411		2SC1740S
	Q132		2SC1740SLN
	Q410		2SC2235
	Q103		2SC2668
	Q131		2SK246
	Q102		DTA143ES
	Q405		DTC124ES
	Q401		DTC143ES
	D409, D410, D416-D419		1SS252
	D421, D422		1SS252
	D101		1SV156
	D401		D5SBA20(B)
	D407		MTZJ24B
	D415		MTZJ5.1A
	D420		MTZJ5.6A
	D412, D413		MTZJ5.6C
	D408		MTZJ6.8B
	D403-D406, D414		S5688G
		COILS AND FILTERS	
	X131 (7.200MHz)		ASS1042
	X151 (456KHz)		ASS1066
	X1101		ASS7011
	L151 (10.7MHz)		ATE7001
	F102		ATF-107
	F101		ATF-119
⚠	L401		ATF-151
	F151		ATF-208
	F152		ATF7003
	L402, L403		ATH-133
	L201-L204		LAU221J
	L101, L131		LAU2R2J
	L102		LAU470J
		TRANSFORMERS	
⚠	T401		ATT7019
		SWITCHES AND RELAYS	
⚠	RY404		ASR1044
	RY401, RY402		ASR7001
		CAPACITORS	
	C412 (0.01μF/150V)		ACG1005
⚠	C414, C415 (10000PF/250V)		ACG7020
	C401, C402 (6800μF/50V)		ACH1105
	C201, C202		CCCSL101J50
	C203, C204		CCCSL151J50
	C233, C234, C237-C244		CCCSL221J50
	C114		CCCSL330J50
	C235, C236		CCCSL471J50
	C109		CCPUCH100J50
	C131, C132		CCPUCH150J50
	C1103		CEANL220M16
	C162, C163		CEAS010M50
	C1101, C1102, C1129, C154, C156		CEAS100M50
	C171, C231, C232		CEAS100M50
	C1010, C1011, C1132, C1177, C406		CEAS101M25
	C405		CEAS101M35
	C403		CEAS102M35
	C1106, C194		CEAS220M25
	C1139		CEAS221M16
	C191, C192, C217, C218		CEAS2R2M50
	C221, C222		CEAS2R2M50
	C1104, C1160, C133, C135, C153		CEAS470M25
	C207, C208, C407, C408, C411		CEAS470M25
	C410		CEAS471M25
	C404		CEAS471M35
	C1122, C1125, C1137, C1138, C1153		CEAS4R7M50
	C159, C173, C225, C226		CEAS4R7M50
	C164		CEASR33M50
	C1108, C1109, C1111, C1112		CFTXA104J50
	C1116-C1119, C1136, C1158, C1159		CFTXA104J50
	C1115, C1120		CFTXA223J50
	C1121, C1123, C1124, C1126, C136		CFTXA224J50
	C1113, C1114, C1134		CFTXA473J50
	C1157, C1161		CFTXA683J50
	C1135		CFTXA684J50
	C101, C104, C115, C116, C119		CGCYX103M16
	C137, C181, C193, C195		CGCYX103M16
	C1012, C1152		CGCYX104M16
	C158		CGCYX183M25
	C111, C139, C155		CGCYX223M16
	C102, C103, C110, C151, C152		CGCYX4[illegible]
	C223, C224		CGCYX4[illegible]
	C117, C122		CGDYX[illegible]
	C182, C196		CKCYB[illegible]
	C160		CKCYB[illegible]
	C205, C206		CKCYB[illegible]
	C215, C216, C409, C420		CKCYB[illegible]
	C424-C427		CKCYB[illegible]
	C120		CKDYB[illegible]
	C1180, C245, C246		CKPUYB[illegible]
	C1179, C157, C172, C227		CKPUYB[illegible]
	C105, C106, C108, C113, C134		CKPUY[illegible]
	C174, C175		CKPUY[illegible]
	C1131		CQMA[illegible]
	C1163		CQMA[illegible]
	C211, C212		CQMA[illegible]
	C1105		CQMA[illegible]
	C1130, C1155, C1162		CQMA[illegible]
	C1133, C1156		CQMA[illegible]
	C1107, C1110		CQMA[illegible]
	C165, C166		CQMA[illegible]
	C209, C210		CQMA[illegible]
	C416, C417		CQMA[illegible]
		RESISTORS	
	R412		RD[illegible]
	R407, R408		RD[illegible]
	R102		RD1/2PM[illegible]
	R422, R423		RD1/4PMFL[illegible]
⚠	R404		RD1/4PMFL102J
	R213, R214		RD1/6PM101J
	R103, R1183, R1186, R131-R133		RD1/6PM102J
	R167, R168, R183, R186		RD1/6PM102J
	R201, R202, R205, R206		RD1/6PM102J
	R243-R245		RD1/6PM102J
	R1010, R1012, R1013, R1123, R1128		RD1/6PM103J
	R136, R142, R165, R406, R411		RD1/6PM103J
	R1104, R115, R221, R222		RD1/6PM104J
	R225, R226, R237-R240		RD1/6PM104J
	R1121		RD1/6PM105J

SCH-8



SIGNAL ROUTE
➡: AUDIO SIGNAL ROUTE

Mark	No.	Description	Part No.
	C840		CKPUYX222M16
	C801, C808, C826, C830, C833		CKPUYY103M16
	C829		CKPYF103Z50
RESISTORS			
	R511, R512		RD1/6PM101J
	R806, R807, R845, R853		RD1/6PM102J
	R517, R518, R847, R848		RD1/6PM103J
	R805, R837-R841, R854, R855		RD1/6PM104J
	R802, R803		RD1/6PM222J
	R503, R504		RD1/6PM224J
	R505-R508		RD1/6PM272J
	R830		RD1/6PM331J
	R519, R520		RD1/6PM332J
	R804		RD1/6PM333J
	R513, R514		RD1/6PM471J
	R831		RD1/6PM472J
	R801, R827, R828		RD1/6PM473J
	R849		RD1/6PM4R7J
	R856		RD1/6PM681J
	R509, R510		RD1/6PM821J
	R515, R516		RD1/6PM823J
	VR503 (500kΩ)		ACS7004
	VR501, VR502 (50kΩ)		ACS7005
	Other Resistors		RD1/4PU□□□J
OTHERS			
	V801	FL INDICATOR TUBE	AAV7026
	834	CABLE HOLDER	AKT1012

ST. IND. ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	D876		BR3371XJ30A
SWITCHES AND RELAYS			
	S876-S878		ASG1029
RESISTORS			
	All Resistors		RD1/6PM□□□J

VIDEO ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	IC1501		LA7952
	Q1501, Q1502		2SC1740S
CAPACITORS			
	C1505, C1507		CEAS101M25
	C1503, C1504		CEAS471M6
	C1501, C1502		CEAS4R7M50
	C1506, C1508		CGCYX473M16
	C1509, C1510		CKCYF103Z50
RESISTORS			
	R1507		RD1/2PM271J
	Other Resistors		RD1/6PM□□□J

Mark	No.	Description	Part No.
OTHERS			
	1501	2P PIN JACK	AKB7016
	1502	2P PIN JACK	AKB7017
	CN1503	4P JUMPER CONNECTOR	KPE4

REG ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	IC476		NJM78M12FA
	IC475		NJM78M56FA
	IC477		NJM79M12FA
CAPACITORS			
	C478, C480		CEAS221M16
	C476		CEAS470M25
	C475, C477, C479		CKCYF103Z50
RESISTORS			
⚠	R475, R476		RS2LMF391J
OTHERS			
	475	9P CABLE HOLDER	AKT1082

SP. SW AND H.P ASSY

Mark	No.	Description	Part No.
SWITCHES AND RELAYS			
	S701, S702		ASG1017
CAPACITORS			
	C701, C702		CKCYB392K50
RESISTORS			
⚠	R701, R702		RS1LMF331J
⚠	R703, R704		RS1LMF681J
OTHERS			
	CN701	HEADPHONE JACK	AKN7001
	701	EARTH METAL FITTING	VNF-091

TRANS ASSY

Mark	No.	Description	Part No.
CAPACITORS			
	C1401		ACH1237
RESISTORS			
⚠	R1402		RD1/4PMFL4R7J
⚠	R1401		RFA1/4PS4R7J
	Other Resistors		RD1/4PM□□□J
OTHERS			
	H1401-H1404	FUSE CLIP	AKR1003
	951, 952	6P CABLE HOLDER	AKT1079

AMP ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	Q1305, Q1306, Q305, Q306		2SA1145

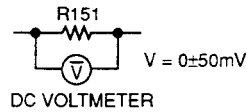
Mark	No.	Description	Part No.
	Q1313, Q1314, Q313, Q314		2SA1837
	Q1321, Q1322, Q321, Q322		2SA970
	Q1301-Q1304, Q301-Q304		2SA992
	Q1309, Q1310, Q309, Q310		2SC1740S
	Q317, Q318		2SC1740S
	Q1315, Q1316, Q315, Q316		2SC2240
	Q1307, Q1308, Q307, Q308		2SC2705
	Q1311, Q1312, Q311, Q312		2SC4793
	D1301-D1304, D1307-D1310		1SS252
	D1313-D1316, D301-D304		1SS252
	D307-D310, D313-D316		1SS252
	D1305, D1306, D1311, D1312		MTZJ10A
	D305, D306, D311, D312		MTZJ10A
COILS AND FILTERS			
	L1301, L1302, L301, L302		ATH1004
CAPACITORS			
	C1317, C1318, C317, C318		CCCSL050C500
	C1303, C1304, C303, C304		CCCSL101J50
	C1319-C1322, C319-C322		CCCSL101K500
	C1315, C1316, C315, C316		CCCSL221J50
	C1307-C1310, C307-C310		CCCSL270K500
	C1331-C1334, C331-C334		CCCSL820J50
	C329		CEAS221M16
	C1301, C1302, C1323, C1324		CEAS2R2M50
	C301, C302, C323, C324		CEAS2R2M50
	C1313, C1314, C313, C314		CEAS470M25
	C1325-C1328, C325-C328		CFTXA104J50
	C1305, C1306, C305, C306		CKCYB122K50
RESISTORS			
⚠	R1341, R1342, R341, R342 (0.33kΩ5W)		ACN7001
	R1311, R1312, R311, R312		RD1/4PM102J
	R1313, R1314, R313, R314		RD1/4PM104J
⚠	R1343, R1344, R343, R344		RD1/4PMF472J
⚠	R1351, R1352, R351, R352		RD1/4PMFL100J
⚠	R1325-R1332, R1357, R1358		RD1/4PMFL101J
⚠	R325-R332, R357, R358		RD1/4PMFL101J
⚠	R1317, R1318, R317, R318		RD1/4PMFL680J
	R1303, R1304, R303, R304		RD1/6PM104J
	R1321, R1322, R321, R322		RD1/6PM152J
	R1345, R1346, R345, R346		RD1/6PM153J
	R1349, R1350, R349, R350		RD1/6PM183J
	R1309, R1310, R309, R310, R355		RD1/6PM222J
	R1307, R1308, R307, R308		RD1/6PM391J
	R1305, R1306, R305, R306		RD1/6PM431J
	R1301, R1302, R301, R302		RD1/6PM561J
	R1323, R1324, R323, R324		RD1/6PM681J
	R1347, R1348, R347, R348		RD1/6PM821J
⚠	R1319, R1320, R319, R320		RFA1/4PS101J
⚠	R1333-R1340, R333-R340		RFA1/4PS4R7J
⚠	R1353, R1354, R353, R354		RS1LMF100J
	Other Resistors		RD1/4PU□□□J
OTHERS			
	CN301	7P JUMPER CONNECTOR	KPE7

Mark	No.	Description	Part No.
VOL. ASSY			
SEMICONDUCTORS			
	IC601, IC602		UPC4570C
	Q681, Q682		2SA1115
	Q683, Q684		2SC2603
	Q641, Q642, Q661, Q662		2SC2878
	Q601-Q604, Q611, Q612		2SK246
	Q606, Q614		DTA124ES
	Q605, Q607, Q613		DTC124ES
	D601-D604, D611, D612		1SS252
CAPACITORS			
	C681		CEANP100M16
	C682		CEAS220M50
	C641, C642, C663, C664		CEAS2R2M50
	C661, C662		CEAS4R7M50
	C613, C614		CFTXA473J50
	C645, C646		CGCYX104M16
	C665		CKCYB102K50
	C666		CKCYB152K50
	C601, C602		CKCYB331K50
	C647-C650		CKPUYB102K50
	C611, C612		CQPA331J100
RESISTORS			
	VR601 (100kΩ)		ACX7005
	Other Resistors		RD1/6PM□□□J
OTHERS			
	601	CABLE HOLDER	AKT1007
	CN601	5P JUMPER CONNECTOR	KPE5
FRONT SP. ASSY			
COILS AND FILTERS			
	L901-L904		ATH-133
CAPACITORS			
	C905, C906		CGCYX104M25
	C901-C904		CQMXA223J100
RESISTORS			
	R901-R904		RD1/4PMFL010J
OTHERS			
	1901	8P SPEAKER TERMINAL	AKE7026
	902	3P CABLE HOLDER	AKT1076
	901	8P CABLE HOLDER	AKT1081

6. ADJUSTMENTS

ADJUSTMENT OF FM TUNER SECTION

- Set the FM/AM selector to FM BAND.
- Connect the wiring as shown in Fig. 1–1.

Step No.	Adjustment Title	FM SG (1kHz, ±75kHz dev.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (MHz)	Level (dBμV)			
1	Center Adjustment	98	60	98.0 MHz	L151	Adjust so that the DC voltage of R151's both ends becomes 0V±50mV. 
2	Front-end Sensitivity Check	98	Less than 14	98.0 MHz	—	Less than 14 dBμV.
3	Stereo Separation Check	89	60	89.0 MHz	—	Less than 23 dB. In case out of standard, cut the R157.
4	TUNED IND. Lighting Level	98	18 (±3 dB)	98.0 MHz	VR151	18 dBμV±3 dB. Adjust so that the indicator of TUNED IND. starts to light up.

Note:

- *Make indicator adjustments in order of AM → FM.*

ADJUSTMENT OF MW TUNER SECTION

- Set the FM/AM selector to AM (MW) BAND.
- Connect the wiring as shown in Fig. 1–1.

Step No.	Adjustment Title	AM SG (400Hz, 30% Mod.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (kHz)	Level (dBμV/m)			
1	TUNED IND. Lighting Level Check	999*1	Less than 65	999 kHz*1	—	Less than 65 dBμV/m. In case out of standard, cut the R164.

**1: For the area using 10 kHz step, frequencies should be 1000 kHz.*

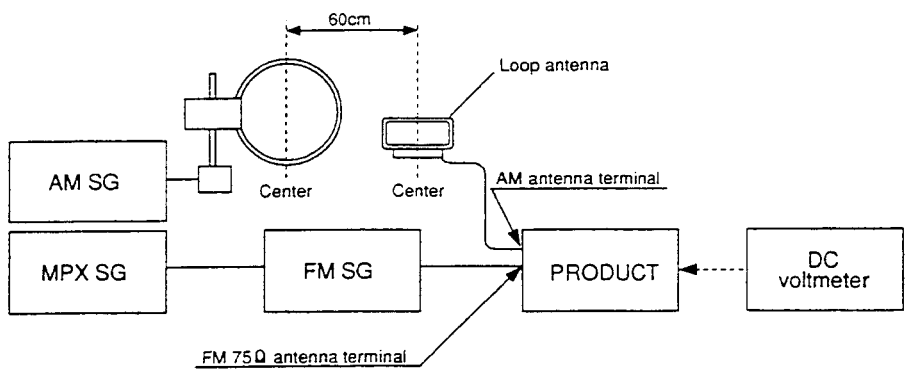


Fig. 1–1. AM and FM Adjustment Wiring Diagram

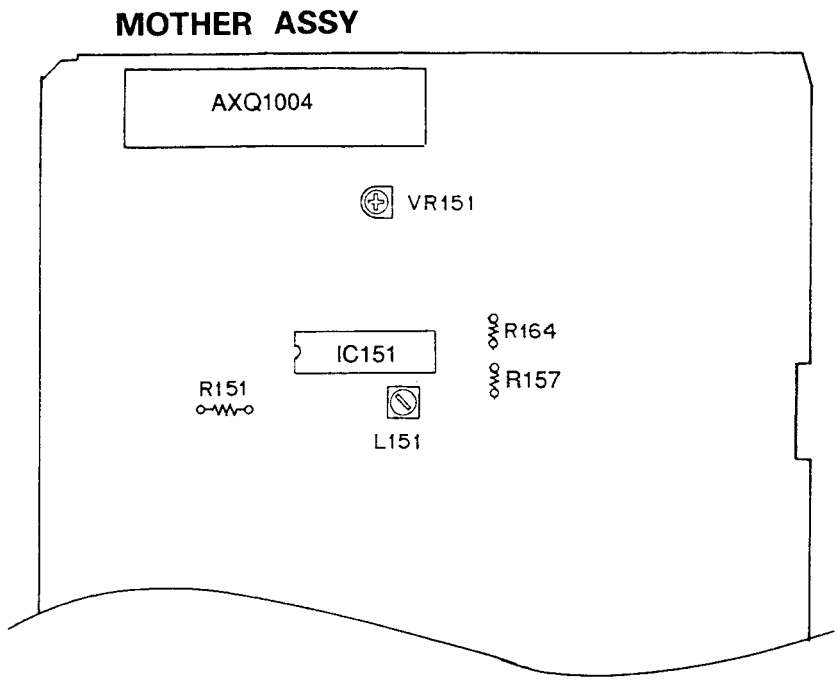


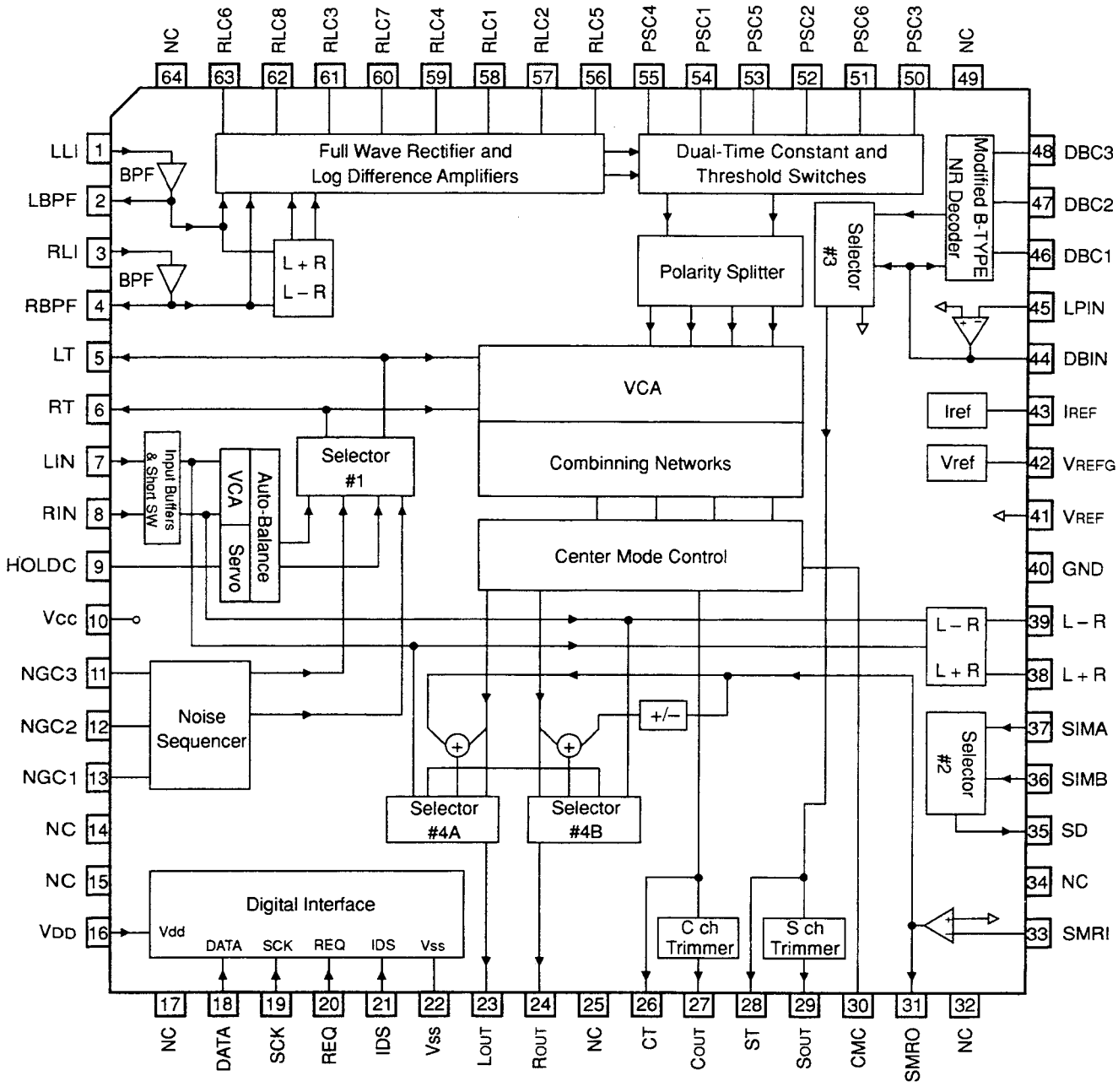
Fig. 1-2. Adjustment Points

7. IC INFORMATION

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

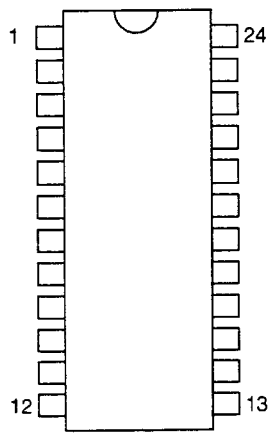
■ NJW1102FG1 (MOTHER ASSY: IC1101)
DOLBY PROLOGIC IC

● Block Diagram

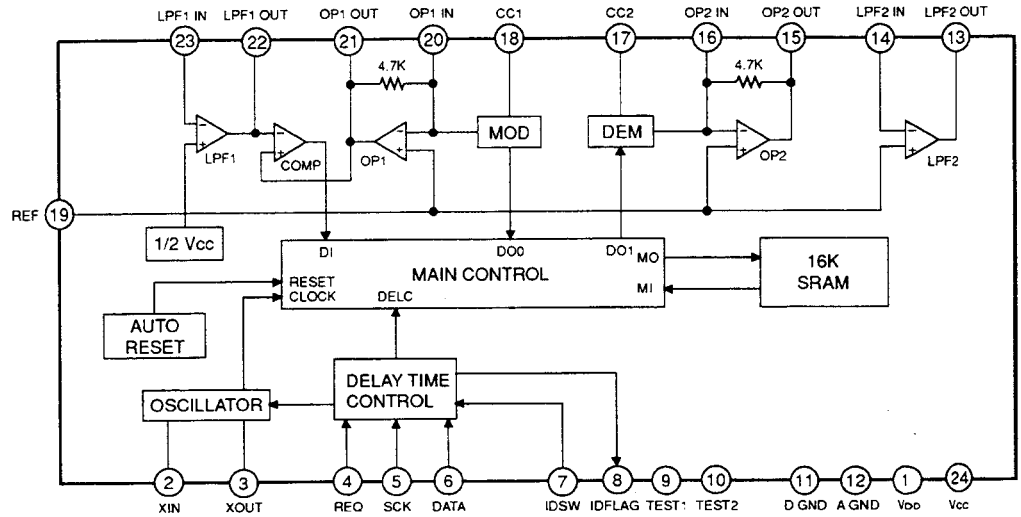


■ NJU9702D (MOTHER ASSY: IC1102)
DIGITAL DELAY IC

● **Pin Arrangement**
(Top View)



● **Block Diagram**

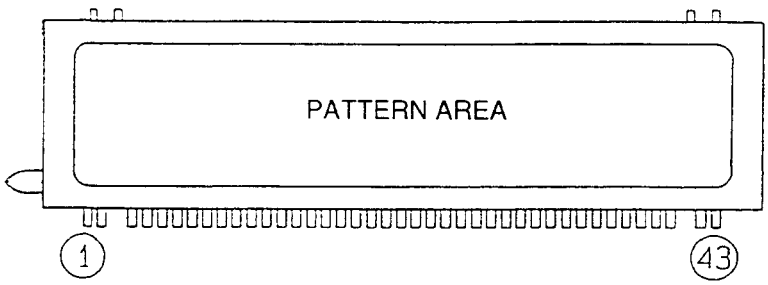


● **Pin Function**

Pin No.	Abbveviation	Pin Name	I/O	Function
1	VDD	Digital power supply	–	
2	XIN	Oscillator input	I	Connected to a 2 MHz ceramic oscillator.
3	XOUT	Oscillator output	O	Input to Pin ② when the external clock is used.
4	REQ	Request	I	Data request input
5	SCK	Shift clock	I	Serial data shift clock input
6	DATA	Data	I	Serial data input
7	IDSW	ID switch	I	External input pin for the 4th bit of ID code
8	IDFLAG	ID flag	O	Outputs a data input identification pulse and serial data.
9	TEST1	Test 1	–	L = Normal mode
10	TEST2	Test 2	–	L = Normal mode
11	D GND	Digital GND	–	
12	A GND	Analog GND	–	
13	LPF2 OUT	Low-pass filter 2 output	O	Forms the output side low-pass filter with external CR.
14	LPF2 IN	Low-pass filter 2 input	I	
15	OP2 OUT	Operation amplifier 2 output	O	Forms the demodulation integrator with external C.
16	OP2 IN	Operation amplifier 2 input	I	
17	CC2	Current control 2	–	Demodulator ADM control
18	CC1	Current control 1	–	Modulator ADM control
19	REF	Reference	–	Analog reference voltage = 1/2 Vcc
20	OP1 IN	Operation amplifier 1 input	I	Forms the modulation integrator with external CR.
21	OP1 OUT	Operation amplifier 1 output	O	
22	LPF1 OUT	Low-pass filter 1 output	O	Forms the input side low-pass filter with external CR.
23	LPF1 IN	Low-pass filter 1 input	I	
24	Vcc	Analog power supply	–	

8. FL INFORMATION

■ AAV7026 (FL AND UCOM ASSY: V801)



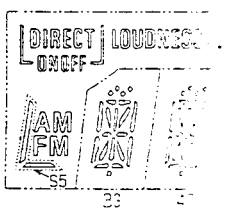
● Pin Assignment

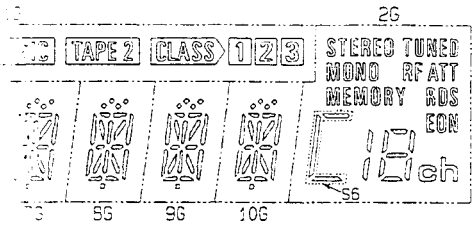
Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Assignment	F1	F1	NL	NL	G2	G3	G4	G5	G6	G7	G8	G9	G10	NL	NL	NL	NL	NL	NL	S21	S16	S17

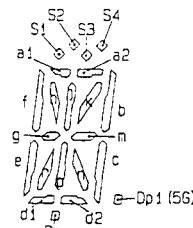
Pin No.	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
Assignment	S15	S14	NL	NL	S11	S10	S9	S8	S7	S6	S5	S3	S4	S2	S1	S18	S19	S20	NP	F2	NL

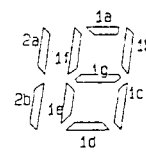
F1, F2: Filament S1~S21: Anode NL: No Lead NP: No Pin

● Grid Assignment









● Anode Assignment

	1G	3G, 4G, 6G~10G	5G
S1	S5	a1	a1
S2	FM	a2	a2
S3	AM	h	h
S4	DIRECT	j	j
S5	ON	k	k
S6	OFF	b	b
S7	PRO LOGIC	f	f
S8	SFC	m	m
S9	LOUDNESS	g	g
S10	S. BASS	c	c
S11	TAPE 2	e	e
S12	CLASS	r	r
S13	1	p	p
S14	2	n	n
S15	3	d1	d1
S16		RDS	d2	d2
S17		EON	Dp	Dp
S18			S1, S3	S1, S3
S19			S4	S4
S20			S2	S2
S21				Dp1

9. REMOTE CONTROL UNIT [CU-VSX106 (AXD7087)] (VSX-505RDS ONLY)

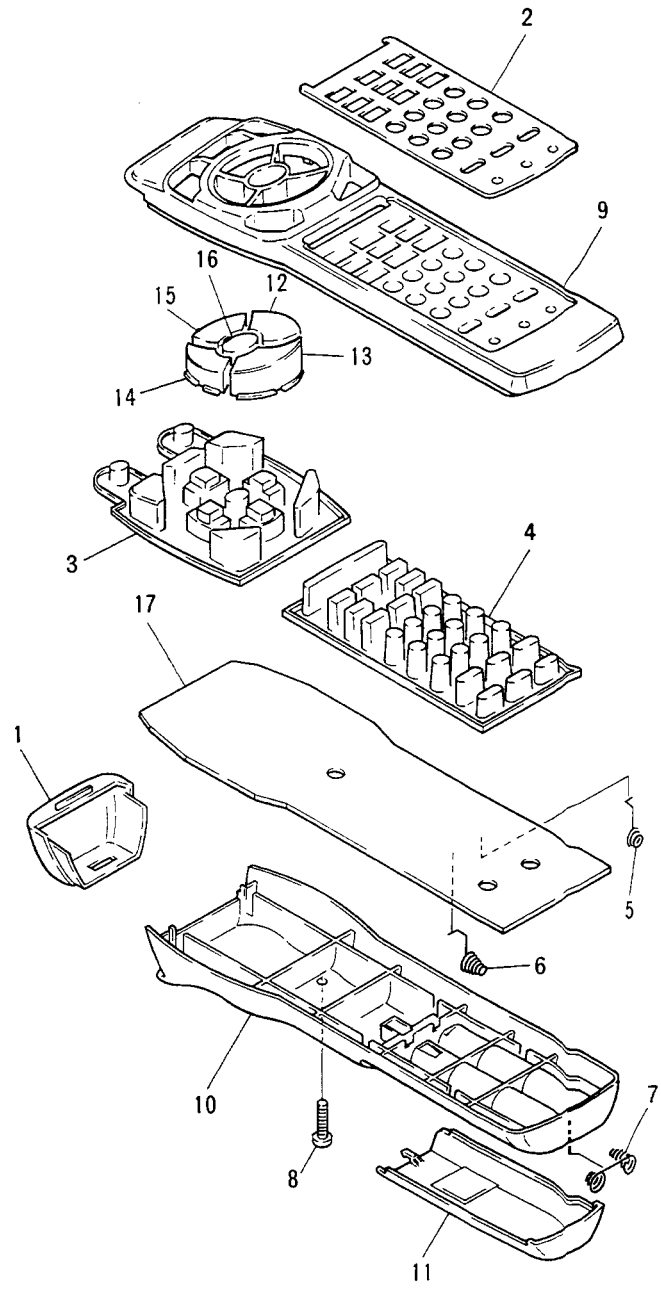
9.1 EXPLODED VIEW AND PARTS LIST

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by " ⊙ " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

■ Parts List

Mark	No.	Description	Part No.
	1	Filter	AZA7152
	2	Name plate	AZA7156
	3	Rubber sheet (A)	AZA7154
	4	Rubber sheet (B)	AZA7157
	5	Spring (+)	AZB7049
	6	Spring (–)	AZB7050
	7	Spring	AZB7051
	8	Screw	AZB7052
	9	Remo-con case (A)	AZN7333
	10	Remo-con case (B)	AZN7326
	11	Battery cover	AZN7327
	12	Main key (FF)	AZN7334
	13	Main key (STOP)	AZN7329
	14	Main key (REV)	AZN7335
	15	Main key (PAUSE)	AZN7331
	16	Main key (PLAY)	AZN7336
NSP	17	PCB	AZW7189



9.2 PCB PARTS LIST

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47K ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56 × 10¹ → 561 ..... RD1/4PU 5 6 1 J
47 kΩ → 47 × 10³ → 473 ..... RD1/4PU 4 7 3 J
0.5 Ω → 0R5 ..... RN2H 0 R 5 K
1 Ω → 1R0 ..... RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62 kΩ → 562 × 10¹ → 5621 ..... RN1/4PC 5 6 2 1 F

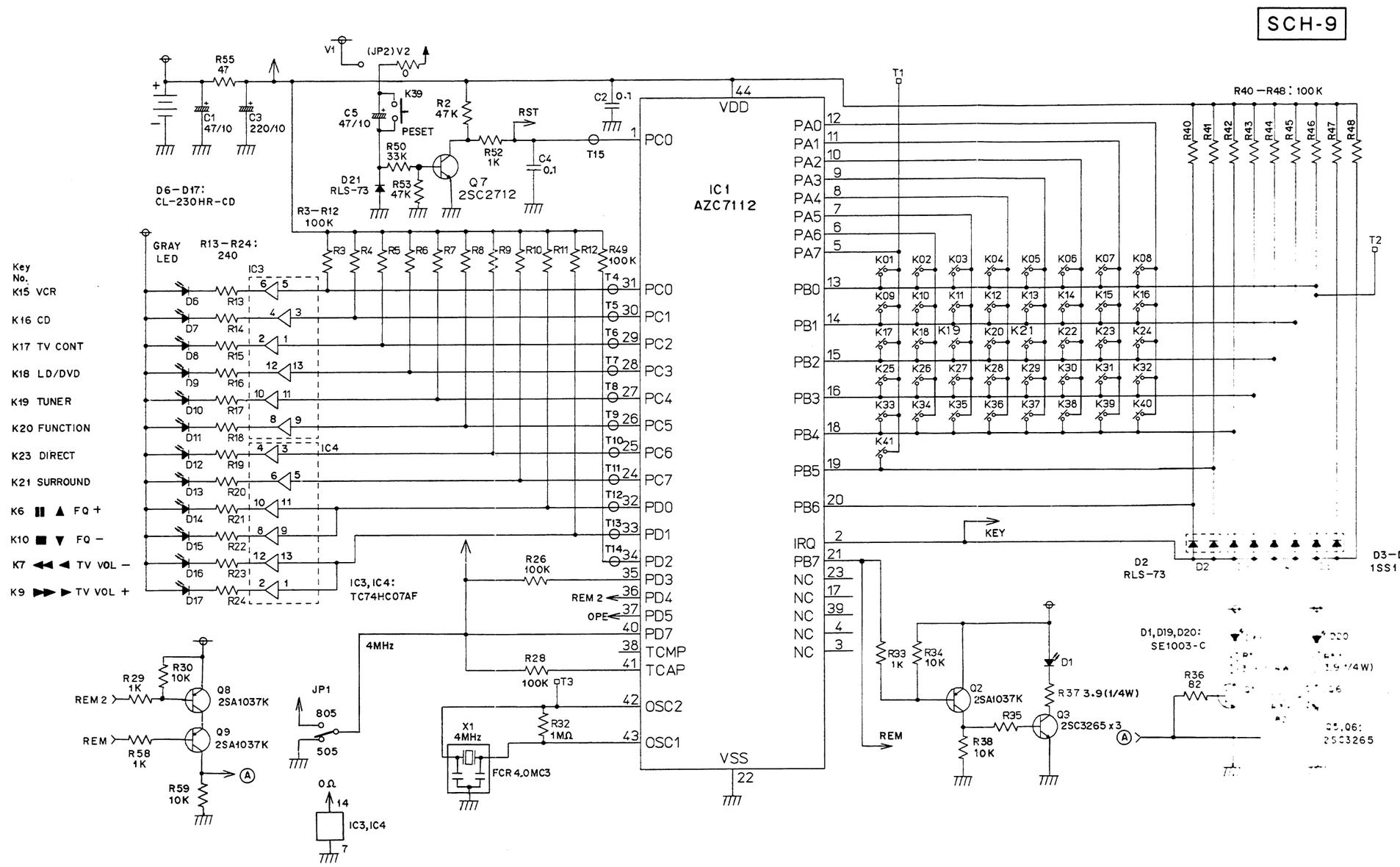
Mark	No.	Description	Part No.
SEMICONDUCTORS			
	IC1 (MC68HC05C9FN)		AZC7112
	IC3, IC4		TC74HC07AF
	Q2, Q8, Q9		2SA1037K
	Q3, Q5, Q6		2SC3265
	Q7		2SC2712
	D1, D19, D20		SE1003-C
	D3-D5		1SS181
	D6-D17	LED	CL-230SR-CD
	D2, D21		RLS-73
CAPACITORS			
	C1, C5		CEAS470M10
	C2, C4		CKSQYB104K25
	C3		CEAS221M10
RESISTORS			
	R37, R50, R51		RD1/4PM3R9J
	Other Resistors		RS1/10S□□□J
OTHERS			
	X1	RESONATOR	FCR4.0MC3

9.3 SCHEMATIC DIAGRAM

NOTE FOR SCHEMATIC DIAGRAMS (Type 2A)

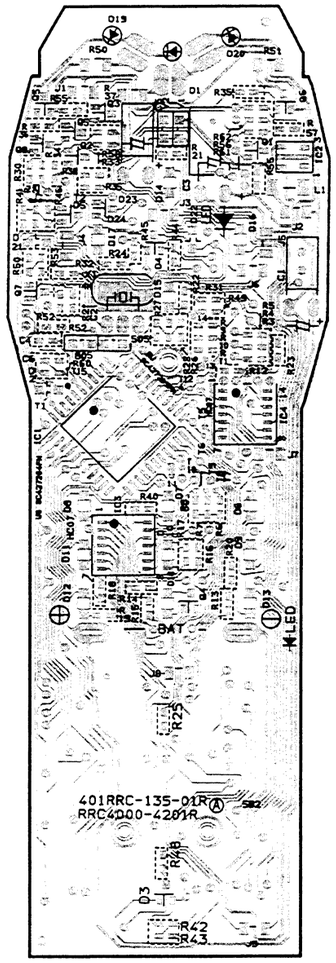
1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   ▭ or ⊣ V :
   DC voltage (V) at no input signal unless otherwise noted.
   ⇦ mA or ⊣ mA :
   DC current at no input signal unless otherwise noted.
7. **OTHERS:**
   - ⊘ or ❶ : Adjusting point.
   - ◁ : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SCH–□ ON THE SCHEMATIC DIAGRAM:**
   - SCH–□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
9. **SWITCHES** (Underline indicates switch position):

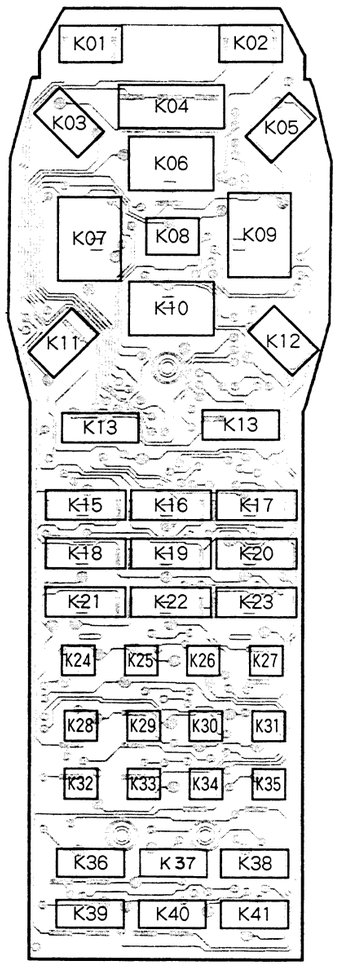
K01 : RECEIVER POWER
K02 : TV POWER
K03 : TV FUNC
K04 : POWER
K05 : MODE CHECK
K06 : ▮▮▲ FQ+
K07 : ◀◀◀ TV VOL–
K08 : ▶ FM/AM
K09 : ▶▶▶ TV VOL+
K10 : ■▼ FQ–
K11 : VOLUME–
K12 : VOLUME+
K13 : DISC–, CH–/SIDE A
K14 : DISC+, CH+/SIDE B
K15 : VCR ┐ ONE TOUCH OPERATION
K16 : CD ┘
K17 : TV CONTROL
K18 : LD/DVD ┐ ONE TOUCH OPERATION
K19 : TUNER ┘
K20 : FUNCTION
K21 : SURROUND
K22 : ALL OFF
K23 : DIRECT
K24 : 1
K25 : 2
K26 : 3
K27 : 4
K28 : 5
K29 : 6
K30 : 7
K31 : 8
K32 : 9
K33 : 0, 10
K34 : +10 TV/VCR
K35 : DISC
K36 : TAPE 2
K37 : RETURN
K38 : MUTING
K39 : RESET
K40 : O.T.O. SET UP
K41 : PRESET RECALL



9.4 PCB CONNECTION DIAGRAM

PCB-6

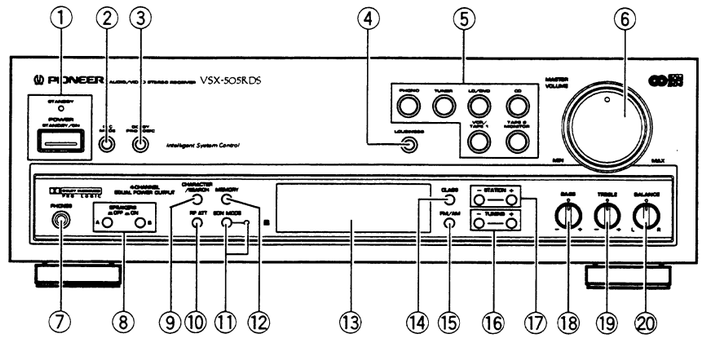




- This diagram is viewed from the mounted parts side.
- This PCB is double sided.

- This diagram is viewed from the foil side.
- This PCB is double sided.

10. PANEL FACILITIES



① POWER STANDBY/ON switch, STANDBY indicator

This is the switch for electric power.

ON: When set to the ON position, power is supplied and the unit becomes operational.

STANDBY: When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

The STANDBY indicator lights when the power is set to STANDBY, and goes out when set to ON.

(Timer ON/OFF possible)

When the unit is switched ON, ON/OFF control can be performed by means of the optional timer.

NOTE:

When the power is initially turned ON, muting will be applied to prevent sound from being output for about 5 seconds.

② SFC MODE button

STUDIO → SIMULATED SURROUND → off

③ DOLBY PRO LOGIC button

Switches DOLBY PRO LOGIC SURROUND on and off.

④ LOUDNESS button

Use when listening at low volume levels.

ON: Boosts low and high frequencies to produce a fuller sense of sound, particularly at low volume levels.

OFF: Normal position.

NOTE:

This button does not operate when the DIRECT button is in the ON position.

⑤ Input selector buttons

PHONO: Press when playing records on a turntable.

TUNER: Press when listening to radio broadcasts.

LD/DVD: Press when performing playback on an LD or DVD player.

CD: Press when playing compact discs on a CD player.

VCR/TAPE 1: Press when performing playback on a VCR unit or cassette deck.

TAPE 2 MONITOR: Press when performing playback on a second cassette deck or when monitoring recording.

⑥ MASTER VOLUME control

Use it to simultaneously adjust the sound volume from the front, center, and rear speakers.

⑦ PHONES jack

Connect the plug on your headphones to this jack. Set SPEAKERS A and B switches to OFF if you want to cut the sound from the speakers and listen only through the headphones.

⑧ SPEAKERS (▮ OFF, ▬ ON) buttons

These are used to select the speaker through which you wish to listen.

A: When the speakers connected to the A terminals are in use.

B: When the speakers connected to the B terminals are in use.

NOTE:

No sound will be heard through the speakers when both A and B buttons are pressed if only one set of speakers has been connected to either A or B SPEAKERS terminals.

⑨ CHARACTER/SEARCH button

When receiving an AM broadcast, or when in the FM RT, FM PS modes:

Press this button; "INPUT" is displayed, and the mode switches to manual station name input.

When in the FM PTY mode:

Press this button; "SEARCH" is displayed, and the mode switches to program type search.

NOTE:

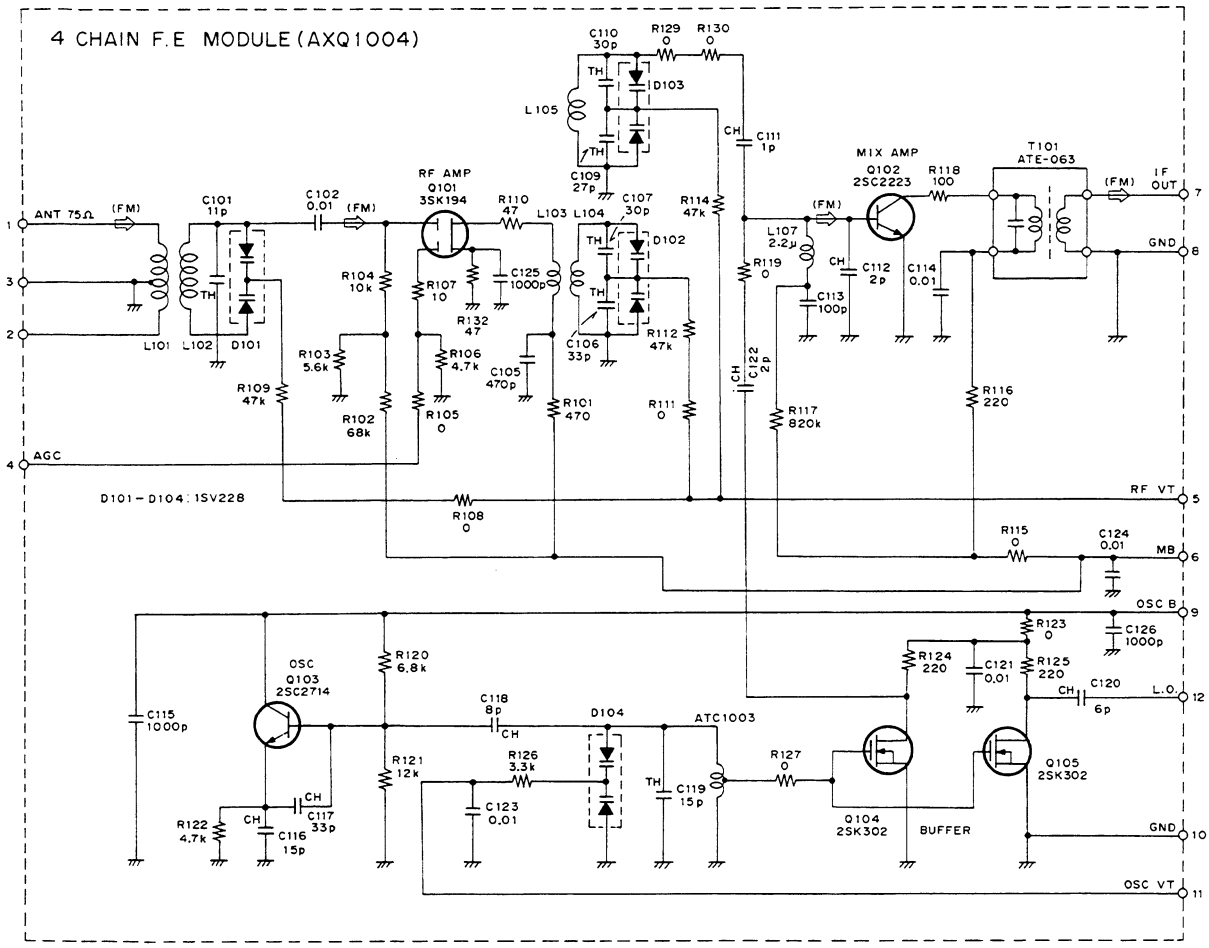
This button does not function in the frequency mode.

⑩ RF ATT button

Set this button to on when receiving strong FM signals (nearby stations) to reduce sound distortion. (RF ATT indicator lights.) Normally, this button should be set off. This button does not affect AM reception.

4.6 MOTHER ASSY (3/3)

TUNER BLOCK



SCH-6

MOTHER ASSY (3/3)

⑪ EON MODE button/indicator
If receiving a station broadcasting EON information, the radio can automatically keep track of broadcast information from other network stations.
If you specify traffic information (TA) or NEWS (PTY) beforehand, the frequency will change automatically when the specified broadcast begins.
The display's EON lights when receiving EON information. When a specified TA or PTY broadcast is received, this indicator flash.

⑫ MEMORY button
Press this button to switch to the frequency preset mode.
Used for registering characters when inputting the station name.
Also used for deleting the PI code together with the EON MODE button.

⑬ Display section

⑭ CLASS button
Use to switch between preset memory classes 1 to 3. In each class, one station can be memorized in each of the 1 to 10 stations, enabling a total of 30 stations to be memorized.

⑮ FM/AM button
Use this to switch between FM and AM frequency band reception.

⑯ TUNING –, + buttons
+: The FM or AM band is scanned in the direction of increasing frequency.
Used for selecting characters when inputting the station name and for selecting the program category in PTY search.
–: The opposite operation to that of the UP button takes place.
Used for selecting characters when inputting the station name and for selecting the program category in PTY search.

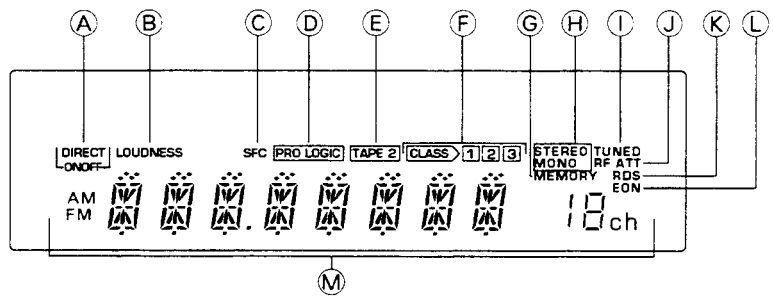
⑰ STATION –, + buttons
+: Stations change in order in the upward direction.
–: Stations change in order in the downward direction.

⑱ BASS control
Use to adjust the low-frequency level. Turn clockwise to boost bass, and counterclockwise to attenuate bass.

⑲ TREBLE control
Use to adjust the high-frequency level. Turn clockwise to boost treble, and counterclockwise to attenuate treble.

⑳ BALANCE control
Use to adjust the sound volume balance between left and right speakers.
L: Decreases the sound on the right side.
R: Decreases the sound on the left side.
Usually, left and right volume levels should be the same.

DISPLAY SECTION



Ⓐ DIRECT ON/OFF indicator

Ⓑ LOUDNESS indicator

Ⓒ SFC indicator
This lights when an SFC mode (STUDIO, SIMULATED SURROUND) is selected.

Ⓓ Dolby PRO LOGIC indicator

Ⓔ TAPE 2 indicator
Lights up when the input selector is set to TAPE 2 MONITOR ON.

Ⓕ CLASS 1, 2, 3 indicator
Indicates the class selected by the CLASS button. The current CLASS is displayed.

Ⓖ MEMORY indicator

Ⓗ STEREO/MONO indicator
STEREO: Lights up when a stereo FM broadcast is being received.
MONO: Lights up when the FM MONO mode is selected with the MPX button of the remote control unit.

Ⓘ TUNED indicator
Lights up when a station is tuned.

Ⓙ RF ATT indicator
Stays lit while RF ATT button is on.

Ⓚ RDS indicator
Lights when an RDS broadcast is received.

Ⓛ EON indicator
Lights when a station broadcasting EON information is received.

Ⓜ Character display

VSX-505RDS, VSX-405RDS

11. SPECIFICATIONS

Amplifier Section

Continuous Power Output (DIN, 2 channels driven)
Front (1kHz, T.H.D. 1%, 4 Ω) ..... 70 W + 70 W
Continuous Power Output (DIN, 4 channels driven)*
Front ..... 50 W + 50 W (1kHz, 1.0%, 4 Ω)
Center ..... 50 W (1kHz, 1.0%, 4 Ω)
Rear ..... 50 W (1kHz, 1.0%, 4 Ω)
Total Harmonic Distortion (both channel driven)*
Front (40 Hz–20,000 Hz, 8 Ω, 40 W OUTPUT) 0.09%

Input (Sensitivity/Impedance)
PHONO MM ..... 2.8 mV/47 kΩ
CD, VCR/TAPE 1, TAPE 2, LD/DVD ..... 200 mV/47 kΩ
Phono Overload Level (T.H.D. 0.1%, 1 kHz)
PHONO MM ..... 100 mV
Frequency Response
PHONO MM ..... 20 Hz to 20,000 Hz ±0.5 dB
CD, VCR/TAPE 1, TAPE 2, LD/DVD .....
..... 5 Hz to 100,000 Hz $^{+0}_{-3}$ dB
Output (Level/Impedance)
VCR/TAPE 1 REC, TAPE 2 REC ..... 200 mV/1.0 kΩ
VCR OUT ..... 200 mV/1.0 kΩ
Tone Control
BASS ..... ±8 dB (100 Hz)
TREBLE ..... ±8 dB (10 kHz)
LOUDNESS ..... + 6 dB (100 Hz at – 30 dB)
+ 4 dB (10 kHz at – 30 dB)
Signal-to-Noise Ratio
[DIN (Continuous rated power output/50 mW)]
PHONO MM ..... 68/61 dB
CD, VCR/TAPE 1, TAPE 2, LD/DVD ..... 86/63 dB

** Measured by Audio Spectrum Analyzer.*

VIDEO Section

Input (Sensitivity/Impedance)
VCR, LD/DVD ..... 1 Vp-p/75 Ω
Output (Level/Impedance)
VCR REC ..... 1 Vp-p/75 Ω
Frequency Response
VCR, LD/DVD → MONITOR ..... 5 Hz to 10 MHz $^{+0}_{-3}$ dB
Signal-to-Noise Ratio ..... 55 dB
Isolation ..... 55 dB

FM Tuner Section

Frequency Range ..... 87.5 MHz to 108 MHz
Usable Sensitivity ..... Mono:14.2 dBf, IHF (1.4 µV/75 Ω)
Sensitivity (DIN)
Mono ..... 1.0 µV/75 Ω
Stereo ..... 50 µV/75 Ω
Signal-to-Noise Ratio
Mono ..... 77 dB (at 80 dBf)
Stereo ..... 72 dB (at 80 dBf)
Signal-to-Noise Ratio (DIN)
Mono ..... 62 dB
Stereo ..... 58 dB
Distortion ..... Stereo: 0.3 % (1 kHz)
Alternate Channel Selectivity ..... 64 dB (400 kHz)
Stereo Separation ..... 40 dB (1 kHz)
Frequency Response ..... 30 Hz to 15 kHz ±1 dB
Antenna Input ..... 75 Ω unbalanced

AM Tuner Section

Frequency Range ..... 531 kHz to 1,602 kHz (9 kHz step)
Sensitivity (IHF, Loop antenna) ..... 350 µV/m
Selectivity ..... 20 dB
Signal-to-Noise Ratio ..... 50 dB
Antenna ..... Loop antenna

Miscellaneous

Power Requirements ..... a.c. 230 Volts, 50/60 Hz
Power Consumption ..... 430 W
In Standby Condition 3W
Dimensions ..... 420 (W) x 140 (H) x 343 (D) mm
Weight (without package) ..... 7.3 kg

Furnished Parts

FM Antenna 1
AM Loop Antenna 1
Dry Cell Batteries (AA/LR6) 2
Remote Control Unit 1
Operating Instructions 1

NOTE:
Specifications and the design are subject to possible modifications without notice, due to improvements.